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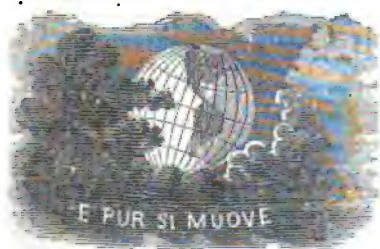


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# EDUCATIONAL MONTHLY.

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## THE ANTHROPOID APES.

**T**HE order Quadrumana has in all ages been regarded with peculiar interest, because it resembles man in structure and appearance. The name, four-handed, originates in the belief that the monkey possesses



ORANG-OUTANG, *S. Satyrus*, Linn.

four prehensile extremities, all adapted to use in walking, yet partaking more of the hand than of the foot. Some of the later naturalists prefer

the term *Pedimana*, or foot-handed, regarding the foot element as predominating. Professor Huxley maintains that the ape is properly *bi-manous*, possessing two hands and two feet; and his reasoning has lately been strengthened by the investigations of Dr. Endleton, who, after careful anatomical examination of a young chimpanzee, has concluded that that ape, at least, is not *quadrumanous*, but properly *bi-manous*, although its extremities are all prehensile.

Though occurring only in or near tropical regions, the *Quadrumanæ* are of wide geographical distribution; and the characteristics of those in different continents are distinctly marked and easily classified. We have the *Simiadae*, or Monkeys of the Old World; the *Cebidae*, or Monkeys of the New World; and the *Lemuridae*, or Monkeys of Madagascar. The *Simiadae* are the most interesting family, including the largest and most man-like members of the order. This family is divided into the Tailed, and the Tailless or *Anthropoid* apes.

#### THE ANTHROPOID APES DESCRIBED.

These are distinguished by teeth like those of man, by a lack of tails and cheek-pouches, and by being able to walk erect, although naturally moving on all-fours.

The *ORANG-OUTANG*, or *Simia satyrus*, in former times, included the chimpanzee, which, however, is now regarded as belonging to a different genus; and the term *orang* refers only to an ape found in Indo-China and the East India islands. The *S. Satyrus* is about five feet high when erect, is covered with reddish hair, and, as the forehead is full, and the snout not extremely prominent, resembles man more than any other ape of which we have satisfactory information. It is solitary in its habits, and builds in trees a rude shelter from storms. Some naturalists have placed this ape below the dog in the scale of intelligence; but this seems unjust. Buffon and others have given instances in which very considerable intelligence was manifested. The *orang* is little known in the West, as few specimens have been imported, although many of other genera have been exhibited under its name.

The *CHIMPANZEE*, or *Troglodytes niger*, inhabits a narrow district of western tropical Africa, and is the *Angola orang* of the old naturalists. It is four to five feet high, covered with grayish hair, long and thick upon the back, but short and thin elsewhere. It is gregarious, and lives almost wholly among the trees. To protect itself against the furious storms of its country, it constructs a hut of twigs and leaves like the *orang*, and when attacked defends itself with clubs and stones. The first individual of this species ever seen in Europe was brought to England in 1738, and exhibited as a curiosity. Of late years, many have been brought to Europe and America, where they have been exhibited as *orang-outangs*.

The *NSHIEGO MBOUVE*, or nest-building ape, the *Troglodytes calvus*

of Du Chaillu, inhabits the Gorilla country. It is of secluded habits, and is but little known. It is of moderate size ; its face when young is white, but sooty black in the adult ; its head is bald, and its body is covered with dark hair. It skillfully constructs nests or huts in trees, with the tops curved to shed rain. In one of these a pair (for the *T. calvus* is not gregarious) abide until the berries in the vicinity are consumed, when they remove and construct another nest. These huts are so well built that Du Chaillu was for a long time unwilling to believe them other than the work of hunters.

The KOOLOO-KAMBA, or speaking ape, was also discovered by Du Chaillu. It is covered with hair, which on the face is arranged like the whiskers of the bearded races. Its forehead is very prominent, and its cranial cavity is very large. If Du Chaillu's account can be relied upon, it resembles man more than any other of the family. Nothing is known of its habits, as its timidity is so great that even Du Chaillu himself was unable to discover or invent any thing concerning it.

The GORILLA, or man-monkey, is found only in Western Africa, inhabiting a narrow strip of country near the equator. It is of gigantic size, a specimen in the museum at Melbourne, Australia, being nearly seven feet high, and five feet about the shoulders. The body is covered with thick hair, varying in color from gray to black ; the face is black and bearded, and the eyes are deeply set. Although, like other apes, its natural mode of locomotion is on all-fours, yet it is able to move erect with ease and rapidity. It is a restless, nomadic creature, living in pairs with its young ; is strictly vegetarian, and always sleeps with its back to a tree. The strength of the gorilla is prodigious. It is said to bend and break a gun-barrel without difficulty. This, however, is doubtful. We have only Du Chaillu's word for it. It is known that one stroke of its massive hand will disembowel a man, or break his arms. The lion is not found in its country, and the leopard flees at its approach. When excited, it beats its breast, and makes a deep roaring sound. Although the only animal that meets man face to face, the gorilla is not the frightful creature of our imagination. Usually it is retiring, even timid, and is found after patient search. Its ferocity appears only in defence of its young, except in case of a lonely male, who, having been deprived of his mate, seems full of malice, and wanders up and down, doing all possible damage.

#### THE DEVELOPMENT THEORY.

A belief that man is related to the *Quadrumana* has long prevailed. The ancients maintained that, in certain islands of the Indian Ocean, there was a race of men with tails. Koeping, a Swede, pretended to have traded with them. Smith, in his "*Natural History of the Human Species*," states that a certain family, chief of the *Sesodya* tribe, claims to be descended from the monkey-god which they worship. Captain Harris tells

us that the inhabitants of Aden, in Southern Arabia, regard the monkeys of the rocky heights near the city as the remnant of the once powerful tribe of Ad. Having incurred the displeasure of Heaven by attempting to establish a rival paradise, they were metamorphosed into monkeys.

Within two hundred years, a race of philosophers has sprung up, which has embodied similar ideas in what is known as the "Development Theory." According to this "Theory," the animal kingdom is derived from the simple cell, which, under the influence of two principles—a tendency to progression and the force of external circumstances—has developed through all the successive stages of organization and intelligence, and has at last culminated in man.

We shall consider only the last stage—the transformation of the ape into man. Lamarck, the father of the theory, explains the process. One of the quadrumanous races, which had attained a high degree of development, lost, by some means (concerning which history is silent), the habit of climbing trees and hanging from boughs by the feet as with hands. Afterward, by constraint of circumstances, it was compelled for many generations to walk upon its feet, until, at length, walking on all-fours became inconvenient. The inherent tendency to advance induced a desire for ruling, and the weaker quadrumana were driven into woods, where, being in subjection, neither their wants nor their ideas increased, and they remained undeveloped. The others, however, as they grew in number, found their wants more numerous, and so acquired industrious habits. As generations passed, the ideas of the dominant class increased. To communicate these, signs were at first used, which eventually proved insufficient, and were succeeded by sounds. By continued exertion, the vocal organs became so conformed as to admit of sustained conversation, and language was the result.

Against this theory many objections may be urged. We consider, first, its

#### IMPROBABILITY.

It depends too much upon mere hypothesis, and requires us to take too much for granted. It is impossible for us to conceive of circumstances which would compel quadrupeds to move on their hind feet for generations. Yet this must have taken place, or the theory is untenable. Again, the tailless apes must have developed from the tailed apes, and, therefore, must have "developed" away their tails, which, as may be seen by the engraving, are not inconsiderable. This, too, is improbable. Disuse causes the organ to diminish, but not to disappear. The mammary glands of the male are small by disuse, yet six thousand years have not availed to obliterate them.



KAHAU, *S. nasica*, Sch.

## CONTRARY TO NATURE.

True transmutation of species is unknown in nature. By careful culture, varieties, differing greatly from the primary, of animals and vegetables may be produced ; but these invariably degenerate and disappear, or return to the original stock. If man, by stress of peculiar circumstances, has been developed from the ape, then, as soon as the restraint is removed, he should revert to his former condition. But he does not. From time immemorial, the savages of Borneo have trained oranges to throw down the cocoa-nuts from the trees, being themselves unable to procure them. It is natural to suppose that these savages anxiously desire to possess the long arms of the ape and the power of climbing trees, whereby they would be freed from the labor of training obstinate brutes. The Development theory leads us to believe that these desires would incite them to strong efforts, and that such efforts would eventually cause the production of the new organs and powers. Nevertheless, no such organs have yet appeared ; and that, too, notwithstanding the fact (according to the Development theory) that, to obtain them, they require only to obey the laws of nature and return to their original conformation. In like manner, we may discuss the

## DEVELOPMENT OF INTELLIGENCE.

Mr. Lubbock, in his "Pre-historic Times," holds that, as the chimpanzee now uses stones for cracking nuts, it may easily see that one stone will break another, and so learn to make flint weapons. In making these, sparks will be produced, and thus the secret of procuring fire would be obtained. If all nature possesses an inherent tendency to progress, this result would be natural ; but, unfortunately, all nature does not possess this tendency, and the breach comes where we would least expect to find it. Man, the most highly developed of all created things, appears most obstinately determined to retrograde. Surely, the defenders of the theory do not pretend that man is the acme of development. True, he is now superior to all ; but so was the ape at one time. Be that as it may, man's energies seem most doggedly bent upon retrogression ; so that, unless upheld by some artificial agency, such as the Bible of the Christian, the Shastas of the Hindoo, or the Koran of the Turk, his inevitable tendency is decay. And even these can not always maintain their influence. The inhabitants of Arabia and the Nile country, though devoted to the Koran, are now degraded races ; while, among the nations of Northern Ethiopia, where Christianity once prevailed, fetichism has, in great measure, regained its power.

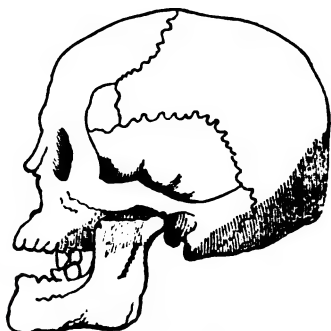
## THE FACIAL ANGLE.

When Camper offered his method of determining intellectual power by the facial angle, he, with some other enthusiastic naturalists of the material-

istic school, conceived that they had the means of proving a gradual transition from the quadrumana to the bimana. This opinion appeared to be well grounded, for some measurements of apes gave an angle of  $65^{\circ}$ . Professor Owen, however, has overthrown the argument, by showing that these measurements were made upon young oranges, whose foreheads are more prominent than those of the adults. That the reader may compare them for himself, we give the skull of a chimpanzee, an ape much resembling man, and that of a negro from the Gold Coast, a member of one



SKULL OF CHIMPANZEE, *T. niger*, Geoff.



NEGRO, from Gold Coast.

of the most degraded races in Africa. As may be seen, the gap is very great. The facial angle of the adult ape of the highest order (measured by two lines, one drawn from the opening of the ear to the base of the nose, the other touching the prominent centre of the forehead and falling upon the most advanced portion of the upper jaw) seldom exceeds  $35^{\circ}$ , while that of the negro varies from  $70^{\circ}$  to  $75^{\circ}$ , and that of the European from  $80^{\circ}$  to  $85^{\circ}$ . From the dog to the monkey the gradation is perfect, but between the latter and man the interval is absolute. Nothing yet known fills the gap or takes an intermediate position.

What may yet be discovered in behalf of the Development theory, of course, we can not even conjecture; but, at present, it is a mere hypothesis, explains few phenomena of nature, and is, in great measure, unsupported by facts.

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READERS may be divided into four classes. The first may be compared to an hour-glass, their reading being as the sand: it runs in and runs out, and leaves not a vestige behind. The second class resemble a sponge, which imbibes every thing, and returns it nearly in the same state, only a little dirtier. The third class is like a jelly-bag, which allows every thing that is pure to pass away, and retains only the refuse and dregs. The fourth class may be compared to the slave in the diamond mines of Golconda, who, casting aside all that is worthless, preserves only pure gems.



## PEDAGOGICAL LAW.

## IV.

1. *The schoolmaster and the king.*—In school, where the mind is first placed under care to be fitted for the grand purposes of life, the child should be taught to consider his instructor, in many respects, superior to the parent in point of authority. The infant mind early apprehends and distinguishes with a surprising sagacity, and is always more influenced by example than precept. When a parent, therefore, enters the school, and by respectful deportment acknowledges the teacher's authority, the pupil's obedience and love for the master are strengthened; and the principle of subordination is naturally engrafted in the child, and in the most agreeable and effectual manner possible—that is, by the influence of example. It is by this happy conspiracy between the teacher and parent, that a new power—a genial influence over the infant mind—is acquired, which is of infinite importance to the welfare and happiness of society. To aim a blow at this power would be to strike at the very basis of *magisterial authority*. It was to support this important element of good government that the learned and judicious schoolmaster said to Charles II., in the plenitude of his power:

"Sire, pull off thy hat in my school; for if my scholars discover that the king is above me in authority here, they will soon cease to respect me." (Morris' Case, 1 *City Hall Rec.*, 55.)

2. *Every man's house is his castle.*—This old maxim of English law (5 *Rep.*, 92) is as applicable to the schoolmaster as to any other person who is in the lawful possession of a house. It is true, that the school officers, as such, have certain rights in the school-house; but the law will not allow even them to interfere with the teacher while he keeps strictly within the line of his duty. Having been legally put in possession, he can hold it for the purposes and the time agreed upon; and no parent, not even the governor of the State, nor the President of the United States, has any right to enter it and disturb him in the lawful performance of his duties. If persons do so enter, he should order them out; and if they do not go on being requested to do so, he may use such force as is necessary to eject them. And if he finds that he is unable to put them out himself, he may call on others to assist him; and if no more force than is actually necessary to remove the intruders is employed, the law will justify the teacher's act and the acts of those who assisted him. (*Stevens v. Fassett*, 27 *Maine*, 266; 1 *City Hall Rec.*, 55; 2 *Met.*, 23; 6 *Barb.*, 608; 8 *T. R.*, 299; 2 *Ro. Abr.*, 548; 2 *Sellk.*, 641; 1 *C. & P.*, 6; 8 *T. R.*, 78; *Wharton's Am. Crim. Law*, 1256.)

3. *The vulgar impression that parents have a legal right to dictate to teachers, is entirely erroneous.*—As it would be manifestly improper for the teacher to undertake to dictate to the parents in their own house, so it

would be improper for the parents to dictate to him in his, the school-house. Nor does it matter whether the parents own their house, or whether, like the teacher, they only have possession of it for a certain time specified and on certain conditions, and perhaps for certain purposes named in the lease. In either case, the lawful possession is enough. It may be very proper, under certain circumstances, for the teacher to go to the house of the parents for an explanation, or to receive or give advice ; and it may be equally proper for parents, under certain circumstances, to go to the school-house for an explanation, or to receive or give advice, provided that, in both cases, it is done in the right spirit. For it must be borne in mind that the school-master has no right whatever to exercise authority over parents out of the school-house, and that parents, as such, have no right whatever to exercise authority over the master. When the interests of parents and teachers are properly understood, there will be complete harmony and unity of action ; but until that happy day comes, it is well enough for all to know that the teacher's position does not require him to please any parent, but *to do his duty*, even though he displease them all. The impression that parents have a right to go to the school and dictate to, or insult the teacher, is entirely contrary to the spirit and letter of the law establishing the common or public schools throughout the country. In private schools, the case is somewhat different ; for the parents there, in legal effect, are the employers of the teacher, and consequently his masters ; but in the common and public schools they are neither his employers nor his masters, and it is entirely out of place for them to attempt to give him orders ; for "there is no privity of contract between the parents of pupils to be sent to school and the schoolmaster. The latter is employed and paid by the town, and to them only is he responsible on his contract." (*Spear v. Cummings*, 23 *Pick.*, 224.)

4. *The statutory law as to disturbing schools.*—In some of the States it is made a *criminal* offence to willfully interrupt or disturb any public, private, or select school. (28 *Conn.*, 232.) The New York statute says, "No person shall willfully disturb, or *disquiet*, any assemblage of persons met at any school district for the purpose of receiving instruction in any of the branches of education usually taught in the common-schools of this State, or in the science of music." (*Session Laws of 1845*, ch. 228.) This statute seems to apply equally to day or evening, and public or private schools. The penalty for its violation is not to exceed twenty-five dollars for each offence, and there is no clause in it favoring parents ; consequently, if they disturb or *disquiet* the school they are subject to the same penalty as others. It is the policy of the States generally to encourage education ; and many of them having established free-schools, have thought proper to make provisions to protect their schools from indiscreet interference. Consequently, all well-conducted schools may now, in a certain sense, be regarded as the wards of the State. It will not allow any of them to be

disturbed, disquieted, or interrupted with impunity ; and the same policy that protects the day schools, protects evening schools also. Hence in Maine it has been decided that a person may be punished, under the statute, for willfully disturbing a private school kept in a district school-house for instruction in the art of writing. (*The State v. Leighton*, 35 *Maine*, 185.)

5. *Parents have no remedy as against the teacher.*—As a general thing, the only persons who have a legal right to give orders to the teacher, are his employers—namely, the committee in some States, and in others the directors or trustees. If his conduct is approved of by his employers, the parents have no remedy as against him or them ; for the law will not presume that the committee, etc., who are invested with the powers of superintendence and management will act arbitrarily and unjustly in a matter submitted to their judgment. (23 *Pick.*, 227.) The following decision on this same point is later, and to the same effect. The board of trustees in the city of New York are vested with the power to conduct and manage the schools in their respective wards ; and in this conduct and management the discipline of the schools is exclusively under their control. To their direction, consequently and necessarily, is confided the power to decide questions relating to the violation of discipline, and *their judgment is conclusive*. (18 *Abbotts' Pr.*, 165.) If a child of proper age and qualifications is rejected by the master, the proper course for the parent is to appeal to the committee, trustees, or directors, as the case may be. If, on their requisition, the master should refuse to accept the pupil, they would have ample means to enforce their authority, by means of their contract with the master. But if they approve of and confirm the act of the master, we are to believe that there is good and sufficient cause for the rejection of the pupil. (23 *Pick.*, 227.) The trustees may always expel a scholar when, in their judgment, the good order and proper government of the school requires it. (14 *Barb.*, 225 ; 38 *Maine*, 376 ; 8 *Cush.*, 164.) And if they err in the discharge of their duty in good faith, they are not liable to an action therefor. (32 *Vermont*, 224.) Consequently, the master ought to consult the trustees before he expels a pupil (23 *Pick.*, 227) ; and if they give their consent, the parent has no remedy, and there is nothing to fear. In no case can a parent sustain an action for an injury to his child, unless some actual loss has accrued to him, or he has been subjected to the violation of some right, from which a possibility of damage to him may arise. (14 *Barb.*, 225 ; 38 *Maine*, 376.) A parent of a child expelled from a public school can not maintain an action against the school committee by whose order it was done. (*Ib.*) Nor is the teacher of a town school liable to an action by a parent for refusing to instruct his children. (23 *Pick.*, 224.)

6. *How and when—Composition—Reading the Bible—Truancy—Vaccination.*—The teacher has the right to direct how and when each pupil shall attend to his appropriate duties, and the manner in which pupils

shall demean themselves, provided that nothing unreasonable is demanded. (27 *Maine*, 281.) A requirement by the teacher of a district school that the scholars in English grammar shall write compositions, is a reasonable one, and refusal to comply therewith will justify the expulsion of the scholar from the school. (32 *Vermont R.*, 224.) A rule requiring every scholar to read from the Protestant version of the Bible, may be enforced by the trustees, or by the teacher, in accordance with the known wishes of the trustees, and the scholar refusing to comply with such rule may be expelled from the school. (38 *Maine*, 376.) A scholar may be expelled for truancy, or for misconduct in school, or for disobedience to its reasonable regulations. (8 *Cush. R.*, 164.) Children unvaccinated may be excluded from school. (*N. Y. Session Laws*, 1860, 761, ch. 438.)

7. *Character on trial.*—When a teacher is put on trial for assault and battery, he should not omit to prove his good character. Every man who lives long enough to acquire a good character is entitled to the benefit of it, when in peril. It has been usual to treat the good character of the party accused as evidence to be taken into consideration only in doubtful cases. Juries have generally been told that, where the facts proved are such as to satisfy their minds of the guilt of the party, character, however excellent, is no subject for their consideration; but that, when they entertain any doubt as to the guilt of the party, they may properly turn their attention to the good character which he has received. (*Bennet v. State, Humph.*, 118.) It is, however, submitted with deference, that the good character of the party accused, satisfactorily established by competent witnesses, is an ingredient which ought always to be submitted to the consideration of the jury, together with the other facts and circumstances of the case. The nature of the charge, and the evidence by which it is supported, will often render such ingredients of little or no avail; but the more correct course seems to be, not in any case to withdraw it from consideration, but to leave the jury to form their conclusion upon the whole of the evidence, whether an individual, whose character was previously unblemished, has or has not committed the particular crime for which he is called upon to answer. (2 *Rus. on Cr.*, 8th Am. ed., 785; *Rex v. Stanard*, 7 *C. & P.*, 673; 32 *Eng. Com. Law R.*, 681; see, also, 1 *Cox R.*, 424; 2 *Mass. R.*, 317; 9 *Barb.*, 609; 14 *Missouri*, 502; 10 *B. Monroe's R.*, 225; 8 *Smedes & Mars. R.*, 401; 3 *Strobh. R.*, 517; 1 *Wheeler's Cr. Ca.*, 64; 1 *City Hall Rec.*, 11, 82; *Rosco's Cr. Ev.*, 97; 1 *Taylor on Ev.*, 258; 5 *Cush.*, 295; *Archbold's Cr. P. & P.*, 400; 2 *Stark Ev.*, 365; 2 *Halsted's Law of Ev.*, 150; and 1 *Greenlf. Ev.*, 54, 55.)

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THE library of the Hon. Peter Force, of Washington, the most valuable collection of antiquarian literature in the United States, was recently purchased by the New York Historical Society at a trifle under \$50,000

## THE SCHOOL-MAN'S FIRST VOYAGE.

THEORY and practice are always at war. Some of life's sorest trials arise from this conflict. Theory provides a channel with long tangents and gentle curves; but the raging torrent of experience now overflows, now abrades this side and now that, and not seldom cuts new and yawning tracks as it rushes on. So it turned out with the schoolmaster who went to Aspinwall, on his way to California. None knew better than he the nature and power of steam, the science of the winds, or the mechanism of the steamboat. Had he not lectured on all these things to his astonished pupils a hundred times? Nay, he was even as familiar with Bowditch's Navigator as with Morse's Geography. Well then, might he, forearmed and forewarned, know *how* and *when* to brave the dangers of the ocean.

Thus the professor, now seeing his way to California all clear, resolved on a "first-class passage," knowing that such a "passage" implied always a state-room and first table. So he rests quietly until the last week, and then walks up for his "first-class ticket," with all its privileges and immunities, when, behold! his state-room was No. — and his berth 58, second cabin.

"What does this mean?"

"Why, that all the state-rooms are engaged; you came too late."

With admirable composure he bears this his first disappointment, reflecting that at least a berth is secure.

Then comes the embarkation. Oh! the partings and the adieus! But such things are commonplace, and must not detain us.

At length his feet are planted on the hurricane-deck, whence he calmly surveys the surging throng. The gong sounds, "All landsmen ashore!" Well, I am no longer a landsman, thought the professor, and he sadly gazed at the retiring crowd; *sadly*, for he knew that his own dear ones—wife, children, and friends—were there. They *were* to see him on board, and there to say the parting words, and give and take the parting embraces. The rushing multitudes had separated them, and defeated this intent of affection; but as he next stood at the anchor he caught sight once more of all he held dear on earth. Shouts were not only in vain, but undignified. Yet he did shout, and waved and tossed his hat, regardless of the remarks which such conduct might occasion. Eyes at length met eyes—but affection is mute. The bridge is drawn, the cables are loosed, the great beam now begins to move, and the great wheels are making the first of their one hundred and twenty thousand revolutions. The last adieus—but let the rest be imagined.

The Narrows are passed, and the landsman is now fairly at sea. Those splendid state-rooms are not for him. After much research, he worms his way down to the second cabin to look for "berth 58," which in due time

is found. Suppressing a sigh of disappointment that his lodgings are not more commodious, he concludes to make a virtue of necessity, and throws his valise upon his own appropriate bunk.

"Not so fast, please. Excuse me, sir, that is my bunk," exclaims a gentlemanly son of Abraham.

The professor produces his ticket, and so does the Jew. No mistake; 58 is plainly figured on both. He now subsides into a fit of reflection, in which the idea of a first-class passage in the steerage is prominent, and how it may be secured. Forthwith, the purser is consulted; and he, the kind-hearted, who is of course "every body's friend," regretting his want of time, said or sighed at length, "I don't know what I *can* do for you." Thus repulsed and moved with sympathy, the school-man resolved that, come what would, *he* would not add a feather's weight to the burdens of that officer, but would catch his berth on plank, cushion, or sofa, as Providence should provide.

Settled in mind as to personal matters, he turns his thoughts and eyes to the wonders of the deep. He congratulates himself on the auspicious skies, the halcyon days on which his voyage is projected. "Delightful October, the calmest of the months, when the stormy equinox has blown over, and the mild Northwestern has regained his peaceful rule." Alas for this fine theory, so soon to be shamefully falsified! Night settles upon the deep with a black veil of clouds. A damp northeaster springs up, gradually strengthening until midnight and morning, when it had become a "heavy blow," in nautical phrase, but to the school-man a fearful gale. How it howls and shrieks in the rigging! How the steamer rolls and plunges! And when at last the morning came, and he forsakes his sleepless *cushion*, he sees the billows rolling and the foam and spray flying exactly as the *poets* describe it, but to him it was then all earnest *prose*. Alas for the halcyon days of October! Hope almost expires; he begins to anticipate an early termination of his voyage as he thinks of Hatteras. "Stormy Hatteras! If the wind *now* blows a gale, it will blow a hurricane to-night when we are off that savage cape. Geography can not lie." But theory is again falsified, happily for once. The wind lulled off Hatteras, and the night is passed with tolerable composure by all on board, save the three hundred sick.

The third day dawns. The sun springs sudden and burning hot from the waters. The sailors spread the awning over the promenade-deck; and the professor, pacing up and down, in lively conversation with his friends, prophesies a warm sultry day in the clear southern skies, with reasons found in Dove and Redfield. But all at once the sailors are at the awning again, furling it. Some are up the main-mast, tying closer the sails, others remove all encumbrances from the upper deck. Why? Does the captain envy us this grateful shade? Nay, but he has consulted his barometer. Not long after, the sun is veiled in clouds. Dark showers gather

in the west. A water-spout, like a huge white cable, descends from the cloud to the whirling sea, regaling the beholder with the original of many a picture. It dissolves, and in half an hour two others at once are visible.

These also pass, and then a fourth, "grand, gloomy, and peculiar," white, with a background of black, entire from sea to sky, not erect, but doubly curved, with an immense horizontal reach in its midst. These were ominous. The dark rain-clouds soon break up and fly over. The wind strikes us in fitful gusts from the southwest, or *quartering*, as the seamen term it. The sea arose into chopped waves at once, and again the boat began to roll and pitch. Before midnight, a tempest lay around. The motions of the steamer meeting and buffeting this quartering gale were most outrageous. No language can describe it, no landsman could endure it. The shrieking winds, the roaring, dashing waves, the creaking and crashing in midship, as well as its wild tumbling, drives sleep from other eyes than his, and inspired the poor schoolmaster first with terror, then with nausea, and finally with indifference and disgust! Here was another and a final triumph of practice over theory. Reason and self-conceit must henceforth take a lower place. Theory is well as a guide in the search after truth, but experience alone is worthy of our trust.

The fourth morning dawns, and the fair sun ushers in a glorious day—an era of peace in the skies, peace on the sea, and peace in the soul of the humbled school-man. He and his fellow-voyagers pass the magnificent ranges of Cuba and St. Domingo. They enter the great Caribbean Sea; and at the end of the seventh night behold the Isthmus with its majestic hills, its luxuriant forests of cocoa, bananas, caues, and palms.

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## BACKWOODS' GEOGRAPHY.

A FEW winters ago I taught the primary school in a small town. Our room had formerly been a drygoods store; the counter and shelves were removed, and crazy benches were arranged for the children. All the light came in at the western end, which was shaded by a porch. At the eastern end was what our superintendent called a "white blackboard," and in a dark corner was a coal-stove. I had eighty scholars; and the branches of which I was professor were, reading, writing, spelling, and mental arithmetic. Nearly half my charge had not graduated from the alphabet. During my reign, while we were drawing and learning to "cipher," a man came along peddling school apparatus. The directors bought a globe and set of maps for the high-school. As there were two maps of the hemispheres, I begged one, and suspended it in a conspicuous place in the school-room.

The children crowded around, whispering to one another, "What is that funny picter?"

"A map," answered some of the larger ones.

"What is it for?"

"To study geography with. Brother Jim's got a book full o' sich picters."

Here the bell called school.

"Study and recite well, children," I said, "and if we can find ten minutes before recess, we will have a talk about the map." When the time arrived, I pointed to the map, asking, "What is this?"

Some said, a picture; others, a map.

"You are both right; a map is a picture of what?"

"The world," said a few.

"What shape has the world?"

A boy rose with importance, and answered, "A pair of specs," and the rest laughed; while a large girl said, "It is round, like a ball." The boy was puzzled; for the two hemispheres, side by side, seemed as nearly shaped like spectacles as any thing else. I sent to the upper room to borrow the globe. "Here, children," said I, "the world is like this. Can you see all parts of the globe at once?"

"No; only half."

"Half a globe is called a hemisphere. How many halves to the globe?"

"Two," cried the children. "The map is a picture of both halves."

"Can any of you point on the map to where we live?"

Several aimed, but did not hit the mark.

"Do you see that black line? That represents the Mississippi River. Perhaps you never saw it."

"Yes," some said, "we skate there," though this seemed news to others.

"Show me the same line on the globe." This was done. "Right: that is America, our country, and around flows the deep blue sea. This half, on which lies the land we live on, is called the western hemisphere, and the other half is the eastern hemisphere. Let us see if it is the same on the globe as on the map;" and as I turned the globe over, eager eyes glanced from map to globe.

"Oh yes; they're the same."

Here a boy raised his hand to inquire what the earth stood on. So I gave them the old mythology; adding, that though ships had sailed around the earth, they never found any thing to hold it up. "It flies along like a ball in the air, and to-morrow I will show you how it is done."

"But the folks would tumble off," objected one.

"Why doesn't this dust fall from the globe?"

"I guess it's too little."

"Well, people are not as large compared with the earth as the dust is to this globe. Then, there is a power in the earth that holds things to it like



that magnet which I showed you the other day. And when you fall out of a tree, do you fall away from the earth or toward it?"

"Toward it; but the water would run off if the world rolled over."

"James, see what your little sister is doing; can you tell?"

"Whirling spit on a hair," replied he, with a giggle.

"The same power that holds the spit to the hair, holds the water to the moving world. Now repeat—The world is round, like a ball. Men can sail around it. There are two hemispheres, the eastern and the western. We live on the western hemisphere," etc.

Next day I took the globe, stood by the stove, and inquired—

"What must I do?"

"Make the world fly," the children said.

"Then fancy the stove is the sun, and the earth goes rolling round;" and I put my fingers on the poles, and walked in an ellipse, saying, "Now the sun rises on America; little boys and girls get up, go to school, go home, and soon go to bed, while the sun shines on other lands;" and the bright fire in the gloomy corner made them comprehend it readily, as I turned the globe around before the light. We amused ourselves so for some time, the larger children taking my place; then we repeated what we had learned. "The earth turns on its axis. It turns once in twenty-four hours. It goes round the sun in three hundred and sixty-five days."

For their next drawing-lesson I bade them draw a circle, and imitate the outlines of the zones. This they did very neatly with pencil and red chalk. Then holding the globe before the fire, I asked, "Which part of the globe do you think is warmest; this?" laying my finger near the equator; "or that?" touching the arctic circle. All agreed the equator was hottest.

"Which part of your picture represents the hot part?"

"The red."

"Yes; the red is called the torrid zone; the blue is the frigid, or cold zone; and the yellow is the temperate, or mild zone."

Next day we read "Uncle Toby's Talk with Robert and Mary."

When the lesson was over, a boy came to me, saying—"Please tell us how the sun is not seen in some places for months at a time."

So I held the globe before the fire at an angle of  $23^{\circ}$ , and turning it round, asked if they could see any part that did not come into the light? "Yes," they replied; "the part where your right hand rests is dark, and by your left it is light all the time."

"So it is with the earth; it leans over, warming one end at a time; so, while it is winter at the north pole, it is summer at the south pole. Now, watch the world roll;" and I carefully turned it till I came to the opposite side, when the children exclaimed—

"The south pole is out in the cold now, while the north pole suns itself."

Here, the high-school sent for the globe; so we bade it good-by, and

turning to the map, learned its main divisions of land and water, explaining what islands, capes, etc., were, but not requiring any set definitions. In a few weeks many were familiar with the map ; and while we reviewed, I described Dr. Kane's long night in the Arctic regions ; the wilds of British America ; the hills of New England, sending out their busy brooks to turn so many mills ; the plantations and swamps of the South ; the rich bosom of the Mississippi, and the barren plains and Rocky Mountains beyond, rich with Californian gold.

Then we visited the luxuriant wilds of the Amazon ; the diamond coast of Brazil, and the treasures of Peru. England, the home of many of our ancestors, kept us awhile ; Germany was interesting to many as their own fatherland. Then we viewed the rest of Europe, and passed over to Egypt, where flows the Nile, "like a bright thought in a troubled dream." We crossed the great desert to the land of savage men and beasts ; then to idol-loving India, careful China and Japan, and then homeward through the Coral Islands.

"Now, don't you think we need a new map?" inquired the scholars. But the high-school had none to spare, so I had them name all the wild animals in the neighborhood ; then all the tame ones, and where they came from ; then all the animals they ever heard of. One little girl had seen a hippopotamus, and wanted to know where it lived ; and I told them the story of the capture of a calf on the banks of the Nile, which I had read in Parker & Watson's Reader.

I had them name all the plants they had seen ; then those that grow in the United States ; then those that are natives of foreign lands.

We named the different articles bought at the stores ; learning about the manufacture of cloth, soap, salt, saleratus, candles, glass, ironwork, etc. Then we found whence came tea, sugar, coffee, silk, wines, oranges, lemons, cocoa, etc.

I was surprised at the interest they showed. When the time came for pointing on the map, a host of little hands were ready. They began to stay in from recess, and cluster round the map, till I forbade it ; and when I arrived at school, it was generally surrounded by a group of boys, each with a stick, talking about "the backbone of America ;" "the islands where spices grow ;" "Arabia, where the best horses are found ;" "Cape Farewell," "Iceland," and a Babel of like sounds.

Several wished to study geography ; but as the term was nearly ended, and no two had like books, I was obliged to refuse. Of course, this method is fit only for beginners. After text-books are taken, stick close to your text.

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It is said that M. Thiers has completed a history of Florence, in ten volumes, and that he has sold it for \$100,000.

## CURIOUS ARITHMETICAL CALCULATIONS.

"Whenever Dr. Johnson felt his fancy disordered, his constant recurrence was to the study of arithmetic; and one day that he was totally confined to his chamber, and I inquired what he had been doing to divert himself, he showed me a calculation which I could scarce be made to understand, so vast was the plan of it, and so very intricate were the figures; no other, indeed, than that the national debt, computing it at one hundred and eighty millions sterling, would, if converted into silver, serve to make a meridian of that metal, I forget how broad, for the globe of the whole earth—the real globe."

WHEN a mind like Dr. Johnson's can be diverted, amused, and regulated by so simple a calculation as the one recorded in the above anecdote, with so much wonder and admiration, by his friend, Madam Piozzi, it may reasonably be supposed that some entertainment and instruction may be derived from an examination of a few extracts from a work in manuscript, entitled "*Curious Calculations*," designed to interest, amuse, and instruct the young. Besides containing many short and practical methods of calculation, useful to accountants, it has a rare collection of arithmetical questions, puzzles, paradoxes, magic squares, and games, to please and divert the mind, awaken curiosity, arouse the thinking faculties, and incite a desire to examine and understand the wonderful properties of figures.

## SPECULATION IN GOLD.

Suppose that some one of your ancestors, at the commencement of the Christian era, had been so provident as to leave you *one cent*, to accumulate at the rate of six per cent. per annum, compound interest, until the end of the year 1860. How many dollars would you receive, and where would you find room enough to store away its value in gold?

Thinking it might be interesting to many readers to trace the history of this small beginning to its present enormous growth, I have amused myself during some leisure hours by making the following calculation.

Money, at six per cent. per annum, compound interest, doubles itself in a little less than twelve years. For the sake of convenience, and to keep within the limits, we will call it twelve years. Then, the principal, *one cent*, will be doubled *one hundred and fifty-five* times in eighteen hundred and sixty years. This increase is found, by laborious computation, to reach the enormous sum of four hundred and fifty-six *tredecillions* of dollars—an amount so inconceivably great as to require for its expression a line of *forty-five* places of figures.

Being quite certain that all the gold brought from the land of Ophir, in the days of Solomon, all the Pactolean streams that ever enriched a Cressus, all the wealth of Plutus's mine, all the gold ever seen by mortal eye, all the hidden treasure yet to be discovered, will be but a drop in the ocean. let us try to form some idea of the quantity of gold required, by

borrowing the philosopher's stone, and changing the whole world into one solid mass of virgin gold, and then see if we should have enough for our purpose.

Estimating pure gold at the moderate valuation of sixteen dollars an ounce, a cubic foot of the precious metal will be worth 280,000 dollars. This fact being ascertained, the value of any given quantity of gold may readily be computed; and the world is found to be worth ten thousand seven hundred *septillions* of dollars—a sum requiring *twenty-nine* places of figures. If the reader will now compare the value of our golden globe with the amount of interest derived from the insignificant little cent, he will find that forty-two thousand four hundred and twenty *billions* of golden worlds will be necessary to satisfy our demand.

Let us now try if there is matter enough in the bright sun itself, which, on any pleasant morning, may easily be imagined to be made of burnished gold. The sun is *five hundred* times larger than all the planets and their satellites together; and, if it were a hollow sphere, one million five hundred thousand globes like ours might be dropped within its capacious cavern: but yet we must have thirty thousand three hundred *millions* of golden suns to answer the question.

Finding that we can not arrive at any appreciable quantity of matter to be converted into gold, that will give us any idea of the magnitude of the sum under consideration, let us imagine a sphere large enough to contain thirty thousand three hundred *millions* of suns; we shall then have enough gold to cancel the claims of our *interesting* little principal.

A golden globe of such prodigious dimensions must have a diameter of two thousand seven hundred and fifty *millions* of miles. Suppose we consider the sun as the center of this ponderous mass; then, by traveling out far away into the regions of space, four hundred and seventy-five *millions* of miles beyond the orbit of Saturn, the most interesting of all the planets of the solar system, and distant from the sun nine hundred millions of miles, we shall reach a point at whose distance from the sun, through the realms of ether, we can describe the majestic sweep of a circle, which may be conceived to be the circumference of the mighty globe that, in imagination, we are endeavoring to find. So extensive is the track of this circle, that it would take a team of trotters, at a 2-30 gait, *forty-two thousand* years to spin around it.

This globe, then, would require the sun for a golden center; all the space between it and the orbit of Mercury to be of gold; all the space between Mercury and Venus, all the space between Venus and this particle of golden sand, the Earth; and so on, to Mars, Jupiter, and beyond Saturn, swallowing up planets and their satellites, the asteroids, and forming one stupendous golden ball, reaching out in all directions from its center, the sun, to the distance of *one thousand three hundred and seventy-five millions* of miles.

## THE QUEEN'S ENGLISH.

*Mrs. Smith's Parlor.*—Present: MRS. SMITH, MRS. BROWN, MARY SMITH, JEMIMA BROWN, MISS ST. CLAIR, MISS GORDON, MISS GRAHAM.

*Mrs. Smith.* As you say, Mrs. Brown, the Queen's English is good enough for *me*; no matter if it don't suit my Moll or Miss Mary Smythe, as she has printed on them little cards she takes when she goes a-visiting.

*Mrs. Brown.* Cards! Sakes alive, she don't play cards, do she? I'm main glad I didn't send my Jemima to that grand school your Molly's come from. She's got more foolish notions now than's good for her. Why, don't you think she wants her father to get a befix to his name, becos she discovered that our descendants were called Le Brun before the flood!

*Mrs. Smith.* Dear, dear, what is this world a-coming to? I shouldn't be surprised to find some morning we had turned summersault in the night, and were in a state of universal emancipation in the uttermost parts of the earth. These new-fangled idees beat *me*. I came in the other day, tired out, for Moll to help me get dinner—for helps is all hindrances now. Says I, "What's the use of all Moll's larning and ologies, if she don't know cook-ology and sweep-ology?" But, bless your heart, she hadn't learned nary one of 'em! I found her in the parlor telling some young chap how glad she was to be free! "Free from scholastic regulations," she said; but if they're any relations of *mine*, I don't know it. I sot and listened while she described the alterations she was going to git her par to make. She was going to have a boaydoor opening inter a memorandah, and a kivered portfolio with marble steps, and rustic lounges on the memorandah quite permiscuous. That was too much for me. Says I: "You can have your boaydoors, or any other kind of doors, but as to them lazy loungers, I ain't a going to have none of 'em coming about *my* premises. If you larned such nonsense in your 'Young Ladies' Cemetery' you've got to forgit it in double-quick!" The young chap, who had disremembered until then that he was in a violent hurry to go down-town, took his hat and his departer!

*Mrs. Brown.* And a very good thing, too. The young chaps now-a-days look like a tailor's advertisement. I wonder if they don't get their clothes for walking round to show 'em.

*Mrs. Smith.* Well, I daresay. But here comes Moll; I left her putting on her "robey de charms!"

*Miss Smith.* Robe-de-chambre, mamma; my morning-dress.

*Mrs. Smith.* Well, any thing you like, Moll.

*Miss Smith.* For pity sake, mamma, drop that old-fashioned appellation! I so much prefer being called Marie!"

*Mrs. Smith.* And do you think I'd make such a dunce of myself?

*Miss Smith.* Dear me, mamma, you are perfectly incorrigible! You have no pity on my nerves. Want of harmony grates on my ear in the most distressing manner!

*Mrs. Brown.* A nice pair, you and my *Jemima* are, *Miss Molly*.

*Miss Smith.* The world grows wiser, madam, every day; and you can not, with our opportunities for mental development, check the spirit's aspirations!

*Mrs. Brown.* Prespiration! In course not, child; it's very dangerous to check perspiration! Why, if here ain't my *Jemima*! (*Enter Miss Brown and friends.*) I'll just take a seat and wait for you, *Mimey*—that is, if you don't stay too long; for I calculate to git that ironing done up this arternoon!

*Miss Smith.* [*Aside.*] Mamma, here are some of my friends. Perhaps you and *Mrs. Brown* would prefer the sitting-room, as our chat can scarcely interest you.

*Mrs. Smith.* Don't put yourself out, *Moll*; your friends is my friends, and any thing that pleases you pleases me. I'll stop and take some lessons in your new ways.

*Miss Smith.* [*With a gesture of resignation.*] Allow me, then, to make you acquainted with my friends,—*Miss St. Clair* and *Miss Graham*, mamma; *Miss Le Brun*, I believe, you already know.

*Mrs. Smith.* Not a bit of it; I only know little *Jemimy Brown*, the daughter of my old friend there.

*Miss Le Brun.* And I am still the same, dear madam, though I must confess I should like to improve our name. I am sure we have a right to "*Le Brun*."

*Mrs. Brown.* Don't be silly, *Mimey*; be satisfied with your good fortun, in having an honest father that's made soap and candles enough to keep you in pocket-money.

*Miss St. Clair.* [*To Miss Graham.*] I thought *Minnie* said her father was a retired merchant.

*Mrs. Brown.* Retired, did you say, my dear? Yes, we allus did live retired—over the shop—till *Mimey* coaxed her pa to move up town, and a mighty unconvenience him and me find it.

*Mrs. Smith.* [*Looking at Miss St. Clair through her glasses.*] It appears to me I've seen you before. Why, I do believe you're little *Kitty Sinclair* as used to play with *Molly*, when your aunt kept that little shop around the corner!

*Miss St. Clair.* I! madam, I! You are mistaken. I never remember to have met you until to-day.

*Mrs. Smith.* Well, some people's memories is shorter than *Tom Thumb's* tooth-picker. But I never was more certain of any thing in my life than that you used to play with my *Molly*, and I wonder you forgot the nice hot suppers I used to give you.

*Miss St. Clair.* To me! You are mistaken, madam. But I must leave you, Marie; I have an engagement. *Au revoir.* [*Exit.*]

*Miss Smith.* Oh! mamma! what have you done? Offended one of my dearest friends!

*Mrs. Smith.* I hope not, Moll. I'll go right out after her, and ask her to stay and take pot-luck with us.

*Miss Smith.* Not for the world.

*Mrs. Brown.* No, Betsey, don't trouble yourself! I wouldn't encourage anybody in no such foolishness.

*Mrs. Smith.* I don't encourage nobody's foolishness; I'd see their dead corpse walk fust. But I never like to hurt any one's feelings—not even a cat!

*Miss Gordon.* Do not let it grieve you, madam; Eugenia will not take it much to heart. She should have been more true to herself—no one would respect her any the less.

*Mrs. Smith.* Well, to be sure; you are a nice clever-spoken young lady. I'm just of your sentiments.

*Miss Gordon.* Or, rather, my dear mother's. I have often heard her speak of the great advantages we enjoy, and the facilities for improvement which were unknown in her youth. She has always impressed us with the feeling that we should be grateful for them, but not on that account to consider ourselves superior.

*Mrs. Smith.* And a very sensible woman she must be. I should be proud to see her. Pray, did you ever hear her speak of one Jimmy Gordon who lived in Market Space?

*Miss Gordon.* Frequently, madam; he was my grandfather.

*Mrs. Brown.* And a very good man he was, and deserved a great deal of credit, too. Why, I have heard that he commenced life an errand boy, and got up by degrees to the tiptop of the ladder.

*Miss Gordon.* So I have heard, madam.

*Miss Graham.* An errand boy! Oh, horrors, Ella! I'd never own it.

*Miss Gordon.* I see no reason to be ashamed, so long as he was honest and upright.

*Mrs. Smith.* Certainly not, my dear. You have more right to be proud, than if he had been like some of these make-believes, that allurs put me in mind of old John Dobbs—going around *asking* for work, and praying he never might find it.

*Mrs. Brown.* Poor Johnny! He was too lazy to live!

*Miss Le Brun.* Mamma has not much sympathy for the "*dolce far niente.*"

*Mrs. Smith.* What kind of a farm did you say it was?

*Miss Le Brun.* I was merely repeating a well-known Italian phrase, madam.

*Mrs. Smith.* Well known, is it? Well, I must say I've traveled a

great deal—a hundred miles or more beyond the rhubarbs of the city, where the calvary was camped, but nobody never pointed that farm out to me !

*Miss Graham.* Perhaps, madam, your eyesight, like your hearing, is defective.

*Mrs. Smith.* Gone to look for your good manners, perhaps, miss !

*Miss Smith.* I can not hear my mother addressed with any want of respect, Eugenia. I may, as she says, have had some false notions, but I have to thank you and Kate St. Clair for opening my eyes before it is too late. You will forgive me, dear mamma, for not having better appreciated you ; but I do not think I shall easily forget the lesson I have learned.

*Mrs. Smith.* You was always a good child, Molly ; I thought you'd come right at last. You can do what you like to the house. Have your boaydoors, your sapphiras, bristles carpets, and candeeleries, your memmer-andrews ; but don't go and be ashamed of your mother that loves you, because she sticks to her homespun and knitting !

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## THE PROS AND CONS OF OBJECT-TEACHING.

**O**BJECT-TEACHING combines two modes of developing truth—first, instruction by familiar lecture on the part of the teacher ; second, thought or investigation induced in the pupil. These, undoubtedly, lie at the foundation of all successful teaching.

But instruction by lecture is the feature wherein the new system is specially different from the old modes of teaching. It disregards text-books, and the dry study of truth on printed pages. The ancient learning of lessons, often at the cost of vexation and tears, is removed, and the pupil is indulgently allowed to consider the teacher as a sort of encyclopædia of all things worth knowing. How far this method of instruction is carried in the course of education ; how far the advocates of the system would wish it to be carried, I do not know. But if carried much beyond childhood, the practice would, doubtless, begin to defeat itself. The remission of tasks, the pretty manner of instruction, and the idea of getting so much by working so little, would surely be highly agreeable to the restless class of pupils that attend our schools. It would also relieve the anxious parent, insuring him that the boy, who “always has his own way at home,” has the same, at least in a degree, at school. But despite these advantages, whether as much could be gained, the same progress made, the same positive result be made visible, as by using other methods, is very reasonably to be questioned.

The alternative is to cause the scholar to prepare a lesson in a text-



book. This having been learned—memorized, if necessary—the teacher will explain familiarly, adding facts, and shedding a new light on what the pupil, by hard study, may have graven on his memory. In this manner interest will be given of an abiding kind, and the pupil in the course of study, will have made a substantial acquisition—one that he may call his own. The language of the instructor is, "Study this now until you know it. Hard work only will enable you to learn, and by such you will daily grow in knowledge and mental strength. If there is any thing you do not understand, come to me, and we will explain it together. If you have ideas of your own on the subject, do not hesitate to express them." Such would be the advice of the good teacher in whatever branch of study. It is not object-teaching; but it has a feature of object-teaching—an attempt to interest the pupil by awaking his mind, and evincing your desire for his progress.

That object-teaching is receiving so much attention is evidence that teachers are taking better views of education. In so far as it enlivens and enables the old and stale systems of stock teaching to take new forms, the agitation of the subject is beneficial. As a system, however, too much is perhaps claimed for object-teaching.

A practical objection will occur to every one—the disqualification of the majority of teachers to use the system. It is above them. It is too high a kind of instruction. It requires more available knowledge, tact, and experience than most teachers can command. We are not all Arnolds or Mannus. We may be useful as before, but can not attain to the independent instruction that object-teaching demands. But it is assumed, of course, that this is not an objection against the system, but against the present adoption of it. Besides, the very objection shows a want in American schools; a great want. The teachers, as a class, need to be advanced in ability and experience. Elevation is needed, both of the teacher and his position socially considered. Teaching is too much a make-shift—a stepping-stone for young men. Change is the characteristic of our national life; and every man, with restless look, is anticipating high posts of honor or emolument. But this spirit of advancement is unfavorable to the production of great educators. Few great and good teachers will appear in such a state of things, and the tone of the class must be inferior. There is, however, an improved feeling on the subject. Education, as a profession, is advancing. Of this, the discussion and partial adoption of object-teaching is proof.

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SOME one once said to Talleyrand that the Abbé Sièyes was a very profound man. "Profound!" was the reply; "yes, he is a perfect cavity."

## JULIAN GURDON: STUDENT AND SCHOOLMASTER.

## CHAPTER I.

MY father was a graduate of Elmtown College, and I came with him to attend the commencement. How many years ago, I need not tell; for, when on the down-hill road of life, we do not care to count the milestones which we have passed. It saddens us to realize how far behind we have left the scenes of youth.

I am no longer young; but I do not care to call myself old, now, though I was, at sixteen, impatient of my youth, and thought my attainments pointed to maturer years. I was proud that my father believed me sufficiently advanced to enter his venerable *Alma Mater*. He had brought me there, not only to be edified by the commencement exercises, but as a candidate for examination and admission to the freshman class.

This was his first care on arriving; and it was not till he had the pleasure of knowing that I had passed my examination successfully, that he sought his old class-mates and friends who had assembled among the alumni to enjoy the annual reunion.

I, a shy little freshman, attended him everywhere, and was somewhat abashed when presented to dignified and gray-haired men, many of whom now occupied the highest stations. I could hardly believe that they had ever been boys, like myself, trembling through their first examination, and shrinking, as I did, from the awful plunge into the new life.

But when I saw the unbending of these great men, the almost boyish zest with which they recalled the pranks of college life, and heard the mingled fun and pathos, and now and then a ring of triumph in their tones, I realized that it was but in years that we differed—that they had once been boys like me, as I should some day be a man like them. Circumstances must modify my character. I might be neither good nor great like any of these; but the years would steal away the illusions, mar the projects, rust away the keen bright edge of the triumphs, bring me disappointment, care, weariness, gray hairs, failing limbs; and, though they should bring me fruitions as well, instead of the free joyousness of my boyhood, I should then need some such stimulus to enjoyment as the present meeting of these old friends, to enable me to recall with pleasure the youthful sports and employments that had been so vivid in passing.

These thoughts were somewhat saddening to a boy of my tender years, leaving for the first time a beloved home; but the tendency of my mind was thoughtful and moralizing. I had a precocious and vivid imagination, which had always been subject to pruning and the discouragement of its vagaries; and this treatment had forced the development of a "great gift of silence;" so that, when my whole inner being was alive with thoughts,

my father, who knew me best of all, was as ignorant of what was passing within me as the veriest stranger.

"The lad is of a thoughtful, dreamy temperament," I heard him say to one of his friends. "I have tried to incite him to greater activity, and to a more objective mode of thought. I wish to see him, as he grows up, an active man, dealing with the outside world on an equality with his kind ; not a mere bookworm, as his father has been, at the mercy of every shrewd rogue."

How often I thought of these words in the swiftly speeding days, which forced upon me an activity and a struggle with outside forces for which, at the time, I was altogether unfitted.

My father left me, and I experienced the pangs of homesickness—a bitter experience, which, in after-years, had its advantage ; for I knew how to pity and minister to the same dread disease in others. I longed for my home, and for my mother's kiss—to feel her soft hand upon my brow, and her kind eyes reading all that mine spoke, in language plainer to her than words. I suffered terribly. Then the crisis came, and passed ; and, though my sufferings were less, I did not forget.

But I had other things to think of, now. It was the custom in Elm-town College to persecute the freshmen. I had my share in these persecutions, and they aroused me to a newer and different life. I became less introverted, and, in combating outward assailants, gained the rudiments of that lesson which my father had desired I should learn. The season of molestation was brief, and after a little time we settled down to our studies.

This was a very happy year. I studied hard, but I carefully followed the home directions and admonitions. I had my rooms well ventilated, bathed often, and took long walks amidst the enchanting scenery of Elm-town. I grew tall and manly ; and, while the faculty praised my studiousness, and made flattering reports of my progress to my father, it was very evident to all that I was not sacrificing my health and physical soundness to the unremitting toil of the brain.

The year ended, and my father came again to attend the commencement exercises, and to see me take my step. He went away, leaving me a sophomore. Somehow, this was a sadder parting than the first. Why, I could not tell ; but perhaps it was, that among other lessons gained in the past twelve months was that of the instability of human life, or the flimsiness of the usual foundations of human hopes. At any rate, I saw him go with a silent but bitter pang. Its cause was occult then ; but, later, I knew that it was the shadow of the coming event projected over the still sunny pathway of my youth.

I never saw him again. But, even now, the passing years, and many cares and sorrows and struggles, have not obliterated that face and form from my mind. That placid, refined face, framed in the dark hair just

touched with the frosts of coming age—that tall and finely-molded figure, that would have been stately but for the slight stoop of the shoulders, which told of the studious habits and the thoughtful mood! He is always before me. No sun-picture could reproduce him more plainly to my eye; and I shall know him in heaven!

Six weeks from that day came the swift-riding messenger to tell me my father was dead—that I and my sister were orphans, and my mother a widow!

There were neither railroads nor telegraphs near in those days. The messenger had ridden far and long, and I returned with him in the stage-coach that lagged along the muddy autumn roads. They waited only for my coming for the funeral rites; and I was not permitted to see the changed face of my dead parent.

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## CHAPTER II.

I HAD thought my sorrow almost more than I could bear, but I had yet to learn that there was a deeper deep to which my unwilling feet must descend.

My father, almost the last descendant of a rich and proud old colonial family, had always been looked upon and had deemed himself a wealthy man. He had lived upon his income, and had never added a dollar to it by his own exertions. Of late, he had spoken to my mother, puzzlingly, of some scheme which was to add largely to his fortune. She knew that he had received visits in his study from restless, active, shrewd-looking men, who came "on business;" but, as business was precisely what she never troubled herself about, she had no idea what they came for. It was after one of these visits that she had found my father fallen in the fit which resulted in his death.

After the funeral, the attorney who had transacted his legal business produced a will that had been made some years before, by the provisions of which his property had been equally distributed between our mother, my sister, and myself. Our mother and an old friend were appointed guardians of my sister and myself, and the friend, Mr. James, the executor of the will.

Mr. James was present, and, as he must needs return home very soon, he and the attorney proceeded at once to the examination of papers, and a search for whatever was needful in the arrangement of affairs.

All that day, and until late in the afternoon of the next, they toiled in the library. My mother and ourselves were in her room, indulging in perfect abandonment to our grief. We had never met a trial before, and we had no idea that any exertion was required of us. This was the lesson that the busy men below were preparing for us.

At last came a polite request that my mother and myself would appear

in the library. We went, and my poor little sister crept down behind us, unwilling to be left alone. She was eighteen years old—more than a year my senior; but so fair and tiny and delicate that I had always felt myself to be her protector, and desired to shield her from all knowledge of suffering.

But this was no longer possible. With our hearts lacerated by our terrible bereavement, we were now to endure still another pang—one that awakened vague but dreadful anxieties. My father's fortune had disappeared, melted away. How, it was suspected, but not yet known. The only ascertained fact was, that, beyond the pretty cottage in which we lived, and a small annual sum, the interest of my mother's little fortune, which had remained untouched, we had no provision whatever.

Three more unpractical persons were, perhaps, never assembled in one household. We asked no questions. We accepted the fact, and were stunned by it. My mother simply said, with a puzzled look on her sad face:

"I suppose it must be true, since you say so, gentlemen; but I always supposed that Mr. Gurdon was a rich man. I do not understand it at all."

Our guardian and our lawyer both saw that this was true, and they forbore to torture her with details at present, and we retired to think over this new and overwhelming phase of our affairs. An hour later, I was again summoned to the library, but alone.

"This is as bad as bad can be, my dear boy," Mr. James said, but rather coldly, as I thought. "The little income remaining will scarcely pay your college expenses, and I suppose you will not like to leave now. Have you an idea, or has your mother, what has become of the property? I find your father has been speculating; but I find nothing to account for the loss—so much land sold, and his bank account overdrawn, and Mr. Smithson, here, tells me that, only last week, your father sent for the box of papers that have always remained in his charge; and they are all missing now—railroad bonds, scrip, and mortgages, all gone."

I had listened in silence. Mr. James might almost as well have talked Hebrew to me. I only comprehended the fact that we had nothing but our mother's little income, and that would hardly pay my college expenses; and that, as I could not rob my mother and sister, I must leave college, and seek the means of earning instead of spending money.

"I know nothing," I said, seeing, at last, that he waited for an answer. "I always supposed we were rich. My father never mentioned money to me. Ought I not to leave college, sir, and try to help my mother?"

"That's just what I hoped of you, my dear boy," Mr. James answered, far more warmly than he had before spoken; and Mr. Smithson, who was our friend as well as lawyer, got up and shook hands with me.

"And it is just what I *expected*," he said. "Julian has got good stuff in him, though it never had a chance to come out before. But, perhaps, it may not be necessary for you to leave college. These shrewd rascals

that have been coming back and forth, and one of whom last saw your father in a conscious state, have evidently robbed him. But they shall not escape. I'm on their track, and we'll punish them; and I hope we shall get back the money. At any rate, Julian, my boy, don't despair; and tell your mother to be as brave as possible. Your bills at Elmtown are all paid in advance for this term, and you may as well just go back and finish the term, and, by that time, Mr. James and I will be able to see our way better."

After a few more words, I returned to my mother, carrying her a little doubtful comfort. I knew that we were in good hands—those of two men who had loved and honored my father, and were his debtors for many a kindness.

After a few more sorrowful and anxious days, I did return to Elmtown. All agreed that this was best; and, though it pained me deeply to leave my mother and sister, I thought of the unfinished term whose advantages I might enjoy without further expense, and that it was perhaps all I should ever enjoy of school education. With my own way to make in the world, I should have little time for study. It was a sad prospect to me, who longed for a life of scholarly ease, not idleness—my temperament was too active for that—but some pursuit that should leave me ample leisure for my favorite studies.

But I need not dwell upon this anxious, sorrowful time—this transition state of us all, when the cup of poverty was about being pressed to our lips, and we knew not how to escape the draught.

Before the term was over, we knew the worst. We were nearly beggars. One of the men, to whom my father had listened to his undoing, had been found, arrested, and tried, but had been proved totally irresponsible, and the tool of the arch-swindler, Morrison, who was still at large, and supposed to have left the country. Comyns was serving out a brief term in the state-prison, but Morrison, the more skillful rogue, had escaped the punishment justly due him. For ourselves, the effect was the same. Our fortune had vanished, and it became needful that each of us should do something for the support of the household.

My mother, rousing herself, as mothers will for their children's sake, had herself announced the course she meant to pursue. She would sell our country home, for there had been discovered debts of my father's that could be discharged in no other way, and remove to Elmtown. She would take a large house, and fill it with boarders from the college. She felt sure she could provide thus for my sister and herself, while I could live with her, and my bills could be paid by her little income.

I revolted at this scheme, and I was resolved it should not be carried out in full. Still, since our home must be sold, and Mr. James and Mr. Smithson both approved, I was glad she should come to Elmtown. And, to tell the truth, I had no voice in the matter not having been consulted,

and knowing nothing of the plan till the house had been sold, and preparations for removing commenced.

I knew the languid, refined inefficiency of my mother far better than Mr. James or Mr. Smithson did, and I had little faith in her success in this unwonted career ; and though my sister was young and full of spirit and energy, my training, and the manner in which I had been reared, made me almost shudder at the thought that she should do any thing for hire. I had a chivalric feeling toward her. I was her real as well as nominal protector, and I wished to take care of her, not to be helped by her.

But while all these thoughts were surging through my boy's brain, the preparations for removal were completed, the house in Elmtown taken, and I received the announcement that on a certain day the family would arrive. Accordingly, I went to the tavern, where the coach stopped, to meet them on the appointed day.

Both my mother and sister had changed much. But my mother, in her heavy widow's weeds, looked positively grown younger with the new fire and energy that her resolution and her efforts had imparted. I had new hopes of her success from that hour.

As for my sister, she had always been handsome ; but she was now decidedly beautiful. At last her energies saw before them scope and opportunity of exercise. A true woman delights to make sacrifices for one who is beloved ; and my sister's elation was all due to the fact that by her efforts I was to be helped to the completion of my education. I think that she almost rejoiced in the poverty that was to give her the opportunity of doing this.

They had got well settled, and had ample time to try their experiment, before my term ended. Shall I say that I was glad that, so far as the boarding was concerned, it proved a failure ? My mother, accustomed to the profuseness of a rich man's table, would have felt herself disgraced by even the most liberal of boarding-house economies. The first month's receipts did not nearly pay her bills, and the quarter's instalment of her income then falling due, it, also, was absorbed. My sister was giving lessons in music ; but though a proficient in the art, knowing it scientifically, and a brilliant performer, as yet she was, in Elmtown, unknown and unsought. She had few scholars, and those paying the minimum price.

All this tended toward the promotion of my own plans, and they were now fully matured. I had conversed with the poorer students, who were slowly going through college upon their own resources, and I saw what I had to do.

My sophomore year had now nearly ended. I had resolved to pass my examination for the junior class, which I had no doubt of doing, for my standing was good, and then to engage for the winter in teaching, thus leaving to my mother her income. I was already in advance of my class, and I felt confident that in my leisure hours I could at least keep pace

with them through the winter months. In the spring I should have money enough to pay my expenses for the remainder of the year, accepting from my mother only the home I should have so deeply grieved her by refusing.

Thus my plans were fully formed, and lest I should incur the refusal of my guardians, I secured a school before naming my purposes to them.

I was met, as I expected, by the strongest opposition from my mother ; but Mr. James, on the contrary, seemed much pleased.

"My boy, you delight me," he cried, wringing my hands. "Smithson was right—you've good stuff in you ; and you'll be a success yet, which I'm by no means sure would have been the case if my friend Gurdon had not made ducks and drakes of his property. And your mother will do better by and by, and so will Emma, never fear. It is the right spirit you all show, and I like you for it. And listen, my dear boy. It is well to make teaching the means of helping you through college, but let it be something more. It is almost the highest vocation to which a man may aspire. There is hardly another so important, or so responsible. Don't teach school merely to make money, but remember how much will be committed to your trust ; and let your time and talents be used for the benefit of others, as well as yourself."

I had thought of the subject in this light before, and it was easy for me to promise. It was a remote country district to which I was going, where only the veriest rudiments of education from books were demanded—at least the committee had so informed me ; but still I felt that I should find an important work to do, and much would be demanded of me by One to whom in this first employment of my talents I was far more responsible than to my human employers.

It was a cold, dark, and peculiarly chill and cheerless evening in the latter part of November, when, having conquered, if not removed, all scruples on the part of my mother and sister, I arrived, after two days' slow traveling over miry roads, at the scene of my new labors.

The driver had somehow learned that I was the new teacher, and he pointed out to me, as we passed, the school-house, an ancient brown frame building of one story, with a tumble-down and desolate appearance. No trees stood near it, and the fence was half pulled down, while the ground around was either encumbered by the chips left from the chopping of last year's fire-wood or else trodden hard by the feet of more than one generation of children.

My heart sank within me, and did not rebound to cheerfulness when, a few moments later, the driver pulled up suddenly at a dilapidated gray stone house.

"Deacon Lawrence lives here," he said, "and you'll board with him the first week, so they told me to leave you here."

In another moment I stood in the hall of my temporary home, the description of which, with its inhabitants, I leave to another chapter.



January, 1866.

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EMINENT EDUCATORS DECEASED IN 1865.

WITH the opening of the new year, it is a wise custom to look back upon the year that has passed, and note what it has taken from us, and what it has left. The doom of death resting on all, we can not suppose that the rolling months should have passed without taking from our profession some of its loved and honored members. The mortality among teachers in 1865 was not, however, so great as it was in 1864—a year which was remarkable among those of the past half-century, for the extraordinary number of eminent instructors who passed away within its cycle.

Among those whose demise in 1865 we mourn, the most prominent was the statesman and scholar, EDWARD EVERETT, whose connection with educational matters began early, and was continued through nearly the whole of his life of threescore years and ten. As professor in Harvard University at the age of twenty-five; as the president of that venerable institution at a later period; as the eminent friend and advocate of public schools, and the promoter of every measure for their improvement; as one of the founders and most liberal donors to the City Public Library of Boston, Mr. Everett is deserving a high place among the educators of the country. He died on the 15th of January.

SIDNEY A. THOMAS, of New Haven, who died on the 5th of February, was one of the ablest teachers in Connecticut. Thorough, patient, and painstaking, and always keeping pace with the real progress of the age, his school had maintained, for thirty years or more, a high reputation. His school-books were admirable. He was one of the first teachers in New England to introduce the military dress and drill into his school; and at the opening of the war, numbers of his pupils were employed by the State and the General Government in drilling the companies and regiments of volunteers, before they left for the seat of war.

Rev. R. O. KELLOGG, a clergyman and professor in Lawrence University, Wisconsin, a man of fine abilities, and a skillful instructor, took his own life in a paroxysm of insanity in February.

On the 8th of April, Rev. SAMUEL AARON, a Baptist clergyman, a pro-

found scholar, and one of the most successful teachers in New Jersey for nearly thirty years, passed away. We may give a brief sketch of his labors in a future number of the MONTHLY.

MISS ELIZABETH ORAM, a name familiar to many New Yorkers, for forty years or more, died on the 8th of May. She enjoyed a high reputation as a teacher, and as the author of some excellent text-books; and while her little eccentricities occasionally provoked a smile, there are many who will acknowledge their obligations to her for careful and thorough training.

HENRY McMURTRIE, M. D., Professor of Physiology and Hygiene in the Philadelphia High School, was an able and successful instructor, who invested with rare interest a study often pronounced dry by teachers and scholars. He was also the author of some text-books. His death occurred May 26th.

The educational profession, as well as the literary world, experienced a great loss, on the 10th of June, in the death of MRS. LYDIA HUNTLEY SIGOURNEY, widely known as one of our sweetest lyric poets. In early life, for a period of ten or twelve years, she was a successful teacher, a part of the time at the head of an excellent female seminary at Hartford, Connecticut,—and in all her subsequent life, she never forgot her connection with the teacher's profession. One of her most charming prose works is her "Letters to My Pupils." She was in the habit of meeting with the pupils of the female seminaries, and encouraging them in their progress as students. The Hartford Public High School was largely indebted to her able and vigorous advocacy for its successful inception and subsequent growth. No teachers' convention, or other educational movement, in the city, which had been her home for fifty years, would have been deemed a success, if it had failed to elicit her warm and hearty sympathy and co-operation. The instruction of the deaf mute, the blind, the idiotic, and the convicts of the state-prison, and the organization of schools and courses of lectures in the hospitals for the insane, were among her schemes for doing good.

The Right Reverend ALONZO POTTER, D. D., Bishop of the Diocese of Pennsylvania, whose death took place at San Francisco, on the 4th of July, had long been known as one of the most devoted friends of popular education, as well as one of the most accomplished teachers in the United States. We purpose giving, in a coming number of the MONTHLY, some account of his eminent services in the cause of education.

REV. DUNCAN R. CAMPBELL, D. D., a Baptist clergyman, and for seventeen or eighteen years President of Georgetown College, Kentucky, died on the

11th of August. A native of Scotland, and a graduate, we believe, of the University of Edinburgh, he had brought to his work as an instructor, profound scholarship, great tact and discrimination, and a thorough knowledge of human nature. The college had prospered under his presidency.

Of **REV. FRANCIS WAYLAND, D. D., LL. D.**, late President of Brown University, whose death occurred on the 30th of September, we shall speak at length in the next number of the *MONTHLY*. We regard his death as the greatest loss which the cause of education in the United States has suffered during the past year.

**REV. SAMUEL K. TALMAGE, D. D.**, a Presbyterian clergyman, and President of Oglethorpe University, Midway, Georgia, was a man of decided ability, and the author of several interesting works,—none of them, however, we believe, on educational topics. His death occurred on the 2d of October.

**JAMES S. EATON**, long the Principal of the English department of Phillips' Academy, Andover, and in high repute as a fine belles-lettres scholar, died on the 10th of October; and on the same day, **Mrs. ELIZABETH RICORD**, once a popular teacher, and the author of an excellent treatise on mental philosophy, as well as of other text-books, died at Newark, New Jersey, at the venerable age of seventy-eight years.

**REV. GEORGE MUSGRAVE GIGER, D. D.**, a Presbyterian clergyman, late Professor of Latin in New Jersey College at Princeton, an accomplished scholar, died on the 11th of October, at the age of forty-three years.

**REV. J. HOLMES AGNEW, D. D.**, a Presbyterian clergyman, whose life had been almost equally divided between the teacher's and editor's profession, died at Peekskill, New York, on the 19th of October, at the age of sixty-one years. He had been, for a number of years, at the head of the Pittsfield (Massachusetts) Female Seminary, a school of very high character; had edited, for some years, the *Eclectic Magazine*, and had recently taken charge of the *American Federal Monthly*.

**JOSEPH EMERSON WORCESTER, LL. D.**, teacher, geographer, statistician, and lexicographer, author of numerous text-books for schools, and for more than half a century one of the most active and earnest friends of education, died at Cambridge, Massachusetts, on the 27th of October, at the ripe age of eighty-one years. His great labors deserve and will receive a more full record in our pages.

Of foreign educators, deceased during the year, we do not now recall more than four names which possess a Cis-Atlantic reputation. These

were : H. G. OLLENDORFF, a teacher of languages in Paris, of Jewish extraction, who died on the 30th of October, and whose "system of acquiring French, Spanish, German, Italian, and other European languages," has had so extensive a circulation ; CHARLES VON RAUMER, a German professor and author, who died in June, and whose writings on pedagogy and biographies on eminent German teachers have become familiar to us through Barnard's American Journal of Education ; Dr. FARNZ AHN, a German physiologist and teacher of languages, deceased in September, whose "German Method" is widely known and used in this country ; and Dr. CHARLES RICHARDSON, an eminent English lexicographer, who died on the 6th of October, at the age of ninety-one years, and whose great work, "The New Dictionary of the English Language," originally prepared for the Encyclopædia Metropolitana, was, for its time, the finest contribution to etymology which had been made in Great Britain. It has passed through several editions, notwithstanding its great size. He had also published several other philological works.

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### STREET CHILDREN.

FOR several years our educational progress has been especially evinced in the interest manifested in the grading of schools, and in the establishment of grammar-schools, academies, and the higher institutions. Professorships have been liberally endowed ; colleges have rapidly arisen. But there is one phase of popular education which has remained comparatively overlooked. Official returns show, that in this State, and elsewhere, a large portion of youth of the most impressionable age remain outside the school-room. Sufficient attention has not been given to the primary schools ; and, of the advantages they afford, a vast number of the former classes have failed to avail themselves by sending their children. The consequences are felt everywhere ; but, in a city like New York, they meet the eye in every thoroughfare, and to a fearful degree obtrude upon attention. Some sections of the city swarm with dull, listless, and with active, roaming children, who never attend school ; or, if at all, with an irregularity that nullifies the advantages obtained. They become familiarized with vice, spend their youth in an apprenticeship to crime, and become eventually the coarse, dull-eyed, heavy-jawed rowdies, from whose ranks the penitentiaries and prisons are supplied.

Among the causes which tend to add to the number thus growing up, are the indifference of many parents concerning the education of their children, the want of parental authority in others, and, in many cases, the lack of a decent sufficiency of clothing, and not unfrequently, perhaps, that natural shame felt alike by the destitute and the degraded when in contact with those of better fame and fortune. Whatever the cause of the evil, the results are apparent. The remedy is not obvious. Certain it is, however, that "the defect of the school system is at the bottom." The man who can devise some method by which all the children of the State may be taught even to read and write, should be regarded as the greatest patriot of the nation. There are many who are so zealous in the good cause that they would add the colleges to the public-school system. But the true work and the true honor is for him who would make secure a universality of rudimental study, and graduate honest, independent, labor-loving youth, qualified to become intelligent students in the practical school of life.

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### "THE IGNORANCE OF TEACHERS."

THE strictures made by a correspondent in the last number, on the editorial, "THE IGNORANCE OF TEACHERS," caused us to fear that others had equally misunderstood our remarks. Communications since received, however, show a correct understanding of our purpose and sentiments. One correspondent says :

"I was a little touched on seeing the caption of the article, but on reading it, I pronounced an unequivocal Amen. For I perceived that, while ostensibly reflecting upon teachers, you were in reality denouncing the customs, rules, and circumstances which tend to make the teacher appear at a disadvantage among those who often are his inferiors ; and I feel sure that the profession needs no warmer friend than it has in the MONTHLY."

But while correspondents are thus willing to point to customs, school laws, and unfavorable circumstances, as the real mark at which we aimed, we must remind them that the profession, aye, each member of it, too, has a work to perform in removing every thing that is detrimental to their interests, and in any way—directly or indirectly—derogatory to their position and professional reputation.

## EDITORIAL CORRESPONDENCE.

Gotha, December 2, 1865.

*The Great Kinder Garten School at Gotha—The Sparrow and the Hawk—Mechanical Occupations, etc.—The Mistake in the System—Careful Oversight, the Great Advantage—The Elementary School attached to the Kinder Garten; it is not Superior to American Schools.*

THE Kinder Garten of Gotha is one of the most celebrated in Germany; and as my little girl is a pupil there, I have taken time to visit it repeatedly. So far as these visits warrant, I may say that the method of instructing the scholars is as good, or perhaps better, than is current in American infant schools. The director, Mr. Kohler, is evidently a man of fine spirit; and the young ladies who assist him are patient, faithful, and energetic. The method employed is as follows:

Children attend four hours daily—from ten to twelve, and from two to four. The first hour is spent in singing; the second, in building block-houses, drawing on slates, working on perforated board, and weaving slips of variegated paper together. In singing, the children stand in a circle, and the songs are made to illustrate simple little games. Take this, for instance: A sparrow is seen flitting up and down within the circle of little ones. This is a child chosen at random from the school. It sings a simple air, telling you how glad it is to enjoy the bright sunlight. Pretty soon a hawk enters the circle, in silence, and pursues the sparrow up and down, while the children standing around sing a verse or two describing the pursuit. The next step is seen when all aim a gun (their extended right arm) at the hawk, continue the song, which culminates at that point when the combined weapons are discharged and the hawk falls dead. Meanwhile, the children continue their verses, while the strongest goes in and bears the bird of prey from the field.

This is an example out of many. Some illustrate occupations—the blacksmith, the shoemaker, and the like; some imitate the motion of mills and of machinery more or less intricate. All indicate ingenuity. A few are copied, and are well known, in an English dress, in America. Some are new

—at any rate, to me. Yet the interest, to me, was marred by this one fact, that there was a lack of spontaneity; all was too dead, too mechanical. You can not make sports take the place of books without sapping the life which makes them enjoyable. You can not turn play into the regular duty and routine of the school-room without changing it from play to work, and making it distasteful. The expressionless faces of the children, and the stiff, formal manner in which they went through their plays and songs, convinced me that there lay a mistake at the bottom of the system, and that the introduction of a few minutes of song and of play into the midst of the regular duties of the school-room gives a keener satisfaction than the system of this Kinder Garten.

"All work and no play  
Makes Jack a dull boy,"

says the old couplet; but

No work and all play  
Is apt Jack to cloy,

is an equally bad rhyme, and not much further from the truth.

Yet the institution seems to be not wholly unworthy of praise. With the introduction of an hour's instruction in sewing and knitting (to be taught to the boys as well as to the girls), and some little matters like that, interposed with frequent songs and plays, as is done in an admirable Kinder-garten in London, it would be very easy to make this institution one of great excellence and profit. I think the careful oversight which the scholars have at all times is, perhaps, the best part of the whole system. A little son or daughter can be sent here with the greatest security against the contraction of evil habits and foul language.

The elementary school, which is connected with this Kinder Garten, I have also visited. The method of instruction is similar to that which is pursued in those schools with us where the "object system" has been introduced. It is hardly worth while to enter into a detailed description; for there was little new to be described. The appearance of the scholars and of the teachers was not materially unlike what it would be found in hundreds

of schools in New England and in New York. Books are little used. Much of the instruction is conveyed by oral communication, and the Pestalozzian central principle is rigidly adhered to, to make the scholars *think out* result after result, from principles and facts given to them at the outset. Yet in no way could this school be spoken of as superior to many which can be found with us. One might expect in German teachers one quality the possession of which might naturally presuppose the possession of patience, I mean stolidity—that good-natured, easy way, that would make them gentle, considerate, patient teachers. But this they do not seem to be. They are, too often, hasty, harsh, passionate. Treatment of this sort is the worst possible for children. There is nothing that they need more than the absence of an impetuous, jerky, fiery, and impatient spirit. But I do not find that, in this respect, the Germans are superior to our nervous and too excitable teachers in America.

W. L. G.

#### HOW TO TEACH THE ALPHABET.

Astoria, December 16, 1865.

**MR. EDITOR**—The difficulty experienced by many preceptors in teaching the alphabet induces me to say a few words concerning it. I have come to the conclusion, that before a person is fitted to impart *primary* instruction he must be full of experience in teaching, and must possess tact and judgment rarely found. Consequently, we commit an error of the most grievous kind when we use primary classes as schools of discipline and preparation, in which young teachers are to gain the training which fits them for positions of (as is supposed) more responsibility.

To teach the alphabet is a difficult task, generally because the teacher is unfitted for the work. An officer in our army, while at New Orleans, undertook to teach a freedman to read. In the orthodox manner, he took up the primer, and, pointing out the third letter, said, "That is 'C';" then pointing out the first letter, he said, "That is 'A.'" Whenever the pupil was asked the name of either letter, he invariably answered "'C,'" and, when rebuked, promptly replied:

"It's no use, massa; 'C' 'll always come first."

Falling in this, and thinking he had begun at the middle, the instructor pointed out two capital "A's" of different sizes, and stated that they were alike. Being called away for a short time, he was astonished, upon his return, at finding the pupil busily engaged in comparing the letters by means of a stick.

"Some mistake here, massa; they ain't the same—one's bigger than t'other."

The would-be teacher gave up his charge in disgust, and ever since has busily denounced the freedmen as incapable of mental improvement, forgetting, meanwhile, that the fault was his, not his pupil's.

As the inclination of the child is against study, the elementary points must be presented as curiosities, not as subjects requiring labor. If this method be adopted, the teaching of the alphabet becomes simple. How easily children pick up the letters, their names and sounds, from a tin plate! An acquaintance of mine, an old teacher, not long ago illustrated this principle by relating his own experience:

"While I was teaching over in New Jersey, I found that one of my pupils, a little fellow about ten years old, was unusually dull. Soon it was his father's turn 'to board the teacher.' While there, I learned that, before the boy went to school, he knew nearly all his letters, but that he had now forgotten them. The teacher's neglect then had caused his dullness. I took him in hand immediately.

"Do you see that letter? What does it look like?"

"Like a hoop."

"Well, it is a hoop, but we call it 'O.' What does this letter look like?"

"Why, it's just like a saw-buck."

"Well, it is a saw-buck, but we call it 'X.'"

"I then pointed to 'B,' and called it an ox-shoe; so with others, until, in three quarters of an hour, his knowledge of the alphabet had returned, and each letter wore a familiar face. At length I called his attention to the two letters, 'O' and 'X,' and asked him what they spelled. Of course he did not know; but, by pointing out the oxen then feeding in the door-yard, I helped him. In this way I gained his attention. Learning was not a task but an amusement, and before bedtime the dull child was as bright as need be. From that night I had no difficulty. The boy is now a worthy man, as clever as any of his

neighbors, all owing, no doubt, to that evening's work."

Object-teaching, or illustration from everyday life, is the way to reach the youthful mind, which is incapable of comprehending abstractions. To employ this method properly, careful preparation must be made. The lack of this causes many teachers to complain of dullness in their pupils; a complaint they should never utter, remembering the proverb, "Bad workmen only complain of their tools." J. J. A.

#### "OUR YOUNG FOLKS" AND "THE OTHER SIDE."

LYNDON, MD., December 7, 1865.

MR. EDITOR—I am not much of a critic, but in the "MONTHLY" for November there is one page which I do feel inclined to criticise a little. The page in question is that which you devote to the notice of "Our Young Folks."

Now, so far from gainsaying a single word of it, I cordially indorse it all, for a more charming little monthly could scarcely be gotten up; but there is a qualification I should make in giving it my approval, which you do not make, and I am sure it has never occurred to you. One's geographical position sometimes reveals truths, which more acute and profound minds, in a different locality, fail to discern.

Thus guided, I have been pained to discover, in that otherwise almost faultless little magazine, a drop of poison, that must penetrate the young minds and hearts which are learning from its pages their "lessons for life." I refer to the articles concerning the treatment of our prisoners of war, and others of similar tone.

Tales of suffering and hardship are related with a bitterness that must make a deep impression on the tender minds of youth, and lead them to form and cherish sentiments of hatred and retaliation.

Now, I would not object to children hearing of these things, *if they heard both sides impartially*, for that would teach them to hate war itself, and to avoid whatever would lead to it.

But children in the North, at least the readers of "Our Young Folks," are never told of the suffering that marked the track of the conquering armies—they know nothing of the miles of wasted desolated homes, the throngs of starving, perishing women

and children, nor even of the hardships of the miserable rebel prisoners who spent dreary months and years on their own soil.

Oh, no! these things are not for their ears, and they are led to believe that the sufferings of our boys in Southern prisons was unprovoked and unparalleled.

This seems to me all wrong. If we are to have peace in reality—if the conciliatory policy of our Government is to amount to any thing—why embitter the minds of the children by keeping continually before them the wrongs of one side only? Better far instil lessons of pity and forgiveness.

It seems unwise, to say the least, now at the close of one fearful war, to sow the seeds that must, some day, result in another war, if they produce their legitimate fruit. But, besides that, it is cruel to the children themselves to foster in their hearts sentiments and prejudices that can not elevate or refine them, or prepare them for the duties of citizenship in a reunited country. My heart aches for the children, who, instead of being taught to forgive their enemies, are taught to hate them with a bitter hatred.

Then there is another view to take of it. If these magazines find their way into the hands of Southern youth (which, however, in their present impoverished condition is not very likely to happen), it will have, by no means, a conciliating effect upon their minds, to find that but one side of the story is told to their young countrymen in the North, and that *their* sufferings, privations, and wrongs, are ignored altogether.

Is it not, think you, a very great pity—a great wrong—thus to implant such lasting ill-feeling and hostility in the minds of youth all over the land?

But I have written more than I intended; I only meant to suggest to you the danger, thinking you might devise a remedy. Could not your influence be enlisted in an effort to somewhat modify the tone, or exclude such articles from the pages of a journal so widely disseminated as "Our Young Folks," and so calculated to form and mold the plastic minds and characters of the rising generation?

Your unqualified indorsement of it calls for an effort from you to help to make it worthy of what you say of it, and perfectly unexceptionable in every respect. Or if this may not be, you can at least warn your



own children, and the many young friends you must have, of the insidious teachings of such articles.

Here, on the border, we feel these things as you scarcely can, but the danger exists, nevertheless, if it be not apparent.

My deep interest in the children of our country—our whole country—and a desire to see the divine law of forgiveness and charity impressed on their susceptible hearts, must be my apology for writing at such length.

A. J. M. A.

## NOTES AND QUERIES.

### NOTES.

*Petroleum.*—I have seen several conflicting statements as to the lowest depths at which this substance is found, and the localities in which it is thus procured. Petroleum is found in Canada in geological formations lower than in any other region. The lowest worked oil-bearing stratum is the corniferous limestone of Enniskillen.

A. MOTT KNOLL.

### QUERIES.

*Origin of Light.*—Is it universally supposed that light is due to the vibrations of the ether?

[No. Dr. Calvert, an eminent English philosopher, holds that the phenomena of light is due to the vibrations of solid matter. He believes that there is no light, heat, electricity, or magnetism beyond the limits of the atmosphere surrounding the earth, but that when the ether, which is in a state of vibration, comes in contact with the particles of matter composing our atmosphere, it communicates one of its own peculiar vibrations to these particles; that then, by their vibrations, they become luminous. This theory was maintained in the recent "Cantor Lecture," before the Society of Arts, and awakened much interest.—J. W. H. C.]

*Steam Power in Earthquakes.*—I find little said of the power of steam in the phenomena of earthquakes. What is its greatest power? Is it not an active agent in such cases?

H. G. HOWELL.

[The power of steam, at exceedingly high temperatures, has not been ascertained. It is recorded that in casting two brass cannon, the heat of the metal of the first gun "drove so much damp [sic] into the mold of the second, which was near, that as soon as the metal was let in, it exploded, tearing

up the ground, breaking down the furnace, untilling the house, and killing many persons." This was the steam of a few ounces of water, as it is termed merely "damp." The temperature of melted brass is only 1,869° F.; but the heat of lava is at least 3,000° F. Now, as it has been proved that the pressure of steam increases with an enormously rapid ratio with the temperature, it is manifest that steam, which is present in all natural disturbances of the earth's crust, must be, at times, a dominant force in the production of earthquakes and volcanoes.—J. W. H. C.]

*Gold.*—The "Object-lesson on Gold" suggests another inquiry. Is this metal the heaviest of all known substances?

E. B. S.—LL.

[Gold is not the heaviest substance known. Its specific gravity is about 19.3; that of platinum and iridium about 21.15; osmium, 21.45.—J. W. H. C.]

### REPLIES.

*West Virginia.*—In November MONTHLY are queries concerning West Virginia. When the old State of Virginia seceded, the western part, almost as a unit, refused to follow. When the Confederates poured across the border, on their way to Pennsylvania and Ohio, she rose as a breakwater between them, rallied round the old flag, and asked to be admitted as a member of the family of Federal States. Congress granted the petition, and another star was added to the flag, bearing the motto *Montana semper liberi*. Striking off the shackles of slavery, she adopted the free-school and township systems. West Virginia became a State, not temporarily—not as a war measure—but actually and permanently. The temporary capital is Wheeling.

W. V.

## CURRENT PUBLICATIONS.

THE object of a popular history ought to be at least twofold—to give a record of events, and to teach the influence of those events upon the life, growth, and prosperity of the nation. Hence, and most emphatically with the American nation—for thank God we are a nation—it should not be confined to the mere acts of the (administrative) Government, or to the simple revolution of governmental machinery. Inventive genius; the plough and the plane; the anvil and the loom; the chisel and the pencil; the pen and the press, play just as important a part, and should find recognition. We should see something of the inner life of the nation, if we would gain any clear knowledge of the people whose history we read. We need, as much as we need the facts, the circumstances attending and necessitating those facts, if we are to accept them as lessons of the past for our guidance in the future. It is thus, and thus only, "History is philosophy teaching by example."

The leading object of a school history—and especially a school history of our own country—should be, not to give a dry presentation of facts only, but also to indicate, to the youth of our land, how these facts are connected—the events following causes, and the causes producing events—and to point out to them the great moral and political lessons which these are calculated to teach. The writer of a school history proposes to give instruction to the young, who need as much guidance in tracing the relation of the facts which he presents, as they do in tracing the relations of the facts presented to them in philosophy or in mathematics. Hence, a school history, above all others, should not be a mere chronology of events. This is simply history with its vitals torn out, and properly comes in, after history, as a mnemonic aid, like the formulas in other sciences.

The author of Robert's History<sup>1</sup> has not failed in all this, because he has not attempted it. Indeed he tells us in his preface that, "Facts only are presented, and the mind of the youthful student left in freedom as to the principles and motives

of the actors in this grand drama who pass in review before him."

Let us look, then, at the manner in which these facts are stated, and at some of the facts themselves. The author has followed so strictly the chronology of events, that he has failed to consider together, facts so nearly related that they could not be separated without making such a break in the narrative, as rudely to shock the mind of the attentive reader. For instance, on page 143, "General Wayne, who had brought the war to a successful termination with the Indians north-west of the Ohio, now concluded a treaty with them." The reader is here brought to a sudden stop to inquire about that war, and then naturally asks, why was not this statement made at the close of paragraph 18, at the top of the page, where it evidently belongs? Why should the statement of the "Whiskey Insurrection," and of the "treaty with Great Britain" be interposed? A similar example is found on pages 150-1. In fact this is a fault running through the whole book. The example quoted is subject also to another criticism, to which the writer has too frequently exposed himself: "Brought the war to a successful termination with the Indians," etc. Did Wayne bring "the war to a successful termination with the Indians; or did he bring the *war with the Indians* to a successful termination?"

The slight credit which our author gives to Roger Williams is unjust, and the warm praise accorded to Cecilus Calvert, as the champion of religious liberty, is undeserved. It is true that Calvert guaranteed freedom of religious opinion in his colony; but he never declared, as Williams did, that government had no right to meddle in matters of conscience—that errors in religion "are to be fought against with that sword, which is only in soul-matters able to conquer; to wit, the sword of God's Spirit, the Word of God." Calvert granted freedom of religious worship as a concession, as a matter of policy, in order to build up his colony; and Williams claimed it equally for all as a God-given right, which no government could infringe without usurpation. And yet Williams is passed by without a word of commendation, while Calvert is represented to have

1) ROBERT'S HISTORY OF THE UNITED STATES. Philadelphia: Sower, Barnes & Potts. Price 90 cents.

spent "more than forty years" in establishing the principles of religious liberty, and to have met with such success as to "enrol his name among the great and wise benefactors of the human race, in all ages and in every clime."

It is strange how men will stultify themselves! On the very page (4) where this passage occurs, we are told that in a very short time after, "the Church of England was by law established as the State religion, to be supported by general taxation." This was the splendid success of an effort running through "more than forty years!" No such religious liberty was established by Roger Williams; and, wanting such success, he fails in praise. Alas, poor Williams!

Page 181: "A treaty between Spain and the United States, dated this year, ceded East and West Florida, with all the adjacent islands, to the United States, in extinction of the various American claims, to satisfy which the American government agreed to pay the claimants five millions of dollars."

Now what is the fact with regard to this Florida purchase? Simply this: Spain ceded the Floridas to the United States, and received in exchange Texas and five millions of dollars. It is true that it was stipulated that the money should be paid to American citizens having just claims against Spain. But why was the most important part of this transaction left unrecorded? Was the writer ignorant? or did he fear that if he disclosed a bargain, where so much was given, he would be compelled, *for the honor of Yankee shrewdness*, to state why a contract, apparently so foolish, was made? Did he not know that this was one of the most important moves in the "irrepressible conflict" which brought on us two foreign wars, and culminated in a four years' domestic war, such as the world had never seen? Did he not know that Florida was demanded for the security of slavery—that John C. Calhoun insisted that "Florida is an imperative necessity now—we can get Texas back when we want it;" and thus overcame the opposition of General Jackson to the, otherwise, foolish trade? If he knew the truth of this transaction, so pregnant of evil, why not tell it to the youth whom he would teach? If he did not know it, then—no matter.

Page 194: "The majority, called the Law and Order Party, opposed this move-

ment, insisted that any change in the fundamental charter of the State must be made by the full concurrence of a majority of the people; and denounced the Suffrage Party as guilty of high treason." We can not suppose that the author intends to falsify; and yet the mass of readers would learn from this little else than falsehood. The charter granted by Charles II. was still in force. That charter permitted only freeholders to vote. There was no provision by which the charter could be amended—the people had no power to amend—the Legislature had none. The people desired a change—a convention was called—a constitution was formed and submitted to a vote of all the citizens, a record on the ballot showing whether it was given by a freeholder, or by a citizen not a freeholder. The result was a majority of the freeholders, and also of the citizens not freeholders. The author should have said, "must be made by the full concurrence of a majority of the *freeholders* in an unmixed vote"—an important distinction. The Law and Order Party *did not constitute the majority of the people*.

Page 197: "Such a series of wrongs were (was?) perpetrated against the colonists of Texas as compelled them to take up arms and fight for their lives and liberties." Unhappy Texans! But what were those wrongs? Here again our teacher is dumb. On the establishment of her independence, Mexico abolished slavery. This, as every well-informed person knows, was the grievous wrong which compelled the Texans "to take up arms and fight for their lives and liberties."

What is said of Kansas, and of certain matters in the administration of President Buchanan, is liable to similar criticisms.

Page 238: "Great sorrow was felt for the death of Colonel Baker, a senator in Congress from California." It has generally been supposed that Colonel Baker was a senator from Oregon; but as Mr. Roberts presents "facts only," this may have been a popular delusion.

The book contains not a word about those sterling men who first settled New England, and who, planting the school-house side by side with the church, became the progenitors of a moral, intelligent, and industrious people, who have made the world their debtor for the products of inventive genius and of mechanical skill.

The self-sacrificing deeds of Lafayette,

Pulaski, and Steuben, who aided our fathers in their struggle to be free, are not held up to the admiration and gratitude of those who enjoy the blessings they helped to win.

The cool courage of Wadsworth's "Drum! drum! I say," the heroic conduct of Jasper in nailing the flag to the staff, the words of the dying Lawrence, "Don't give up the ship," are not used to furnish to the youthful mind lessons of sublime and patriotic devotion. Not a word to incite our youth to noble deeds is said of all the worthies of Revolutionary memory. Even Washington, that greatest and best of all our heroes, fails, under the influence of Mr. Robert's pen, to become, as a model, the teacher of the young, in virtue, patriotism, and true manhood.

To those wanting a portable chronological chart of their country's history, in convenient form, this book will be valuable. As a school-book, it lacks too many essential elements, and has no just claim to be called a School History.

NEXT to the teachings and the reasonable requirements of the Gospel, we know of nothing so generally and persistently neglected by the great mass of civilized mankind, as is the practical observance of those laws of physiology upon which so largely depend the preservation of life and health. And, in these latter days, so remarkable for the popularization and diffusion of knowledge, those who thus sin against themselves can claim no exemption from blame on the score of ignorance. In this country especially, where the laws of health are constantly and glaringly violated, popular treatises, school instruction, public lectures, and the columns of our newspapers, all hold up a warning finger to the reckless public, who live too fast to live long or well. And the people read, but will not heed. We have sometimes doubted whether it was worth any one's time and labor to offer any additional instruction to those who thus blindly disregard the voice of admonition and the dictates of common sense. Yet, it is, perhaps, desirable that truth should be constantly kept before the people, whether they will heed it or not. Hence, we can recommend no better medium than Dr. Jarvis' recent and admirable work on "Physiology and Health."<sup>2</sup> The author, who is widely known as a statistician, and the head of a prominent estab-

lishment for the care of the insane, in Massachusetts, commences his treatise with the simple statement that "every human being is appointed to take the charge of his own body. He must supply its wants, direct its powers, regulate its actions, and thus sustain his life." He then proceeds to set forth the laws of health, the powers of the several organs, the limit of their strength, the way in which they are to be developed and sustained, their proper uses, and the certain and evil consequences that follow their misapplication. All this is done clearly, logically, and in the most easy and fascinating manner. Well considered in plan, reasonable in its deductions, and admirable in style, it meets our most exacting wishes as a handbook of the science of which it treats. From preface to finish, the reader feels as if he were face to face with the author in a familiar conversation, in which the accumulated resources of years of study and experience, and practical good sense, are quietly and fully unfolded before him. Where all is so excellent, it is difficult to particularize. Yet the chapters on "Digestion and Food," "Animal Heat," "The Skin," and "The Brain and Nervous System," are worthy of the most careful consideration. For the sake of these chapters alone, we wish that every teacher in the United States could read this work. For every one concerned in the work of education, the book is pregnant with important facts and suggestions, which, properly employed, ought to bear good fruit for the rising generation.

THERE is certainly no more essential part of a nation's literature, none more characteristic and expressive of the nation's conceptions and sentiment, than its popular poetry. Not its popular doggerel, not the street-ballad, though that is very important, but its popular literary poetry, the best known and best liked poems of the great poets, such as are read, and memorized, and declaimed in school, retained, reread, and loved through life. Some of these Professor Simonson has given in his new book.<sup>3</sup>

(2) *PHYSIOLOGY AND LAWS OF HEALTH. For the use of Schools, Academies, and Colleges.* By EDWARD JARVIS, M.D. New York: A. S. Barnes & Co., 1866. 12mo., pp. 427. Price \$1.50.

(3) *DEUTSCHES BALLADEN-BUCH: Eine Sammlung Balladen, Romanzen, und kleinerer Gedichte.* von Goethe, Schiller, Bürger, Uhland, Schwab, Körner, u. A. Mit Lebensskizzen [etc.], von Professor L. Simonson, Trinity College, Hartford. Boston: De Vries, Ibarra & Co. 16mo., pp. 304. Price \$1.75.

As he had to make a selection, perhaps the ballad was the best poetic form to select. There certainly are no more popular or more beautiful poems in German literature than Schiller's ballads, nor any that are more satisfactory to a non-German reader. Besides, he has also given a few of the finest and most popular lyric pieces of the eleven authors represented. The biographical notices of the authors, and the historical explanations, are valuable; and the endeavor to make the book useful, for æsthetic discipline, by the analysis of several poems, is worthy of praise. We take exception to a few general sentences in the preface upon the nature of the ballad. The student is told that the ballad has, according to Goethe's idea, something mysterious, but not mystic; that the latter character lies in the subject of a poem, the former in its treatment. "The mysterious character of the ballad is found in the manner in which it is presented. The poet has his subject, his figures, their actions and motions so deeply impressed upon his mind, that he scarcely knows how to word them. He applies therefore all three fundamental forms of poetry—the epic, lyric, and dramatic—to express what is to excite the imagination and engross the mind," etc. What does this mean? What is the plain English, or plain German, for this subtle distinction between the mystic and mysterious? Do good poets or bad poets find it difficult to word their thoughts and feelings? How much difficulty does *difficult* imply? Are the subject, the figures, their actions and motions, impressed more deeply upon the mind of a balladist than the subject, the characters, and the action of a play upon the mind of a dramatist? Does the ballad-writer employ *three* forms of poetry in *one* poem, because it is mysterious and not mystic? a mere matter of presentation, though not of subject? But an end to questions! The book is good. We miss some poems, such as Uhland's "Little Roland," and "Roland, the Shield-bearer," yet, we are glad to testify that it is a very satisfactory selection; the notes are neither too few, nor too many; the size and appearance of the book fit it as well for the parlor-table or library, as for the use of a class. It will be convenient not only for the student, but for readers of German literature who do not own all the principal poets, or who do not wish to look through large volumes whenever they feel disposed to read over a favorite piece.

NOTWITHSTANDING the great attractiveness of Natural History, its study has not been properly encouraged in this country. This is partly owing, no doubt, to the defective character of such text-books as have from time to time been published. Some of these are dry and abstruse, while others are so superficial as to be unworthy of attention. Dr. Hooker's late work on this subject was a great advance, but a work containing more information concerning the classification, was necessary as a fitting complement to it. In great measure Prof. Tenney's effort<sup>4</sup> supplies the want. We regret that it contains no preliminary chapter on the general structure of animals or comparative zoology. It is true, that a detailed discussion of this subject belongs rather to a work not elementary in its nature; still, some knowledge, at least, is essential to a just conception of the unity of creation. Nevertheless, the judicious teacher will find little difficulty in presenting the matter properly to his class. The book is profusely illustrated with very excellent engravings, some of which appear in the MONTHLY, in the article on "The Anthropoid Apes." The style is very agreeable, and will do much toward rendering the work popular. The mechanical execution reflects great credit upon the publishers.

PROFESSOR TYNDALL'S Lecture on Radiation<sup>5</sup> is very interesting. Abstruse physical points are discussed in a manner which renders them simple, and their study not only instructive, but entertaining. Indeed, the author may justly claim the high honor of being almost the only man living who can present scientific truths in a popular manner without belittling them, or concealing their proper value. The "Rede" lecture is, in great measure, a condensation of what was said upon the same subject in the author's "Heat as a Mode of Motion," although it contains details of many new facts and experiments. The subject of the lecture is not closely followed, but many points clustering about it are carefully treated. An engraving illustrating the comparative heat in the spectrum, precedes

(4) NATURAL HISTORY. A Manual of Zoology for Schools, Colleges, and the General Reader. By SAMUEL TENNEY, A.M., Professor of Natural History in Vassar Female College. Illustrated with five hundred engravings. Crown, 8vo, pp. 540. New York: Scribner & Co. \$3.00.

(5) ON RADIATION. The "Rede" Lecture, delivered in the Senate House before the University of Cambridge, England, on Tuesday, May 16, 1865. By JOHN TYNDALL, F.R.S., Prof. Nat. Phil. in the Royal Institution, etc. 12mo, pp. 48. New York: D. Appleton & Co. 50 cents.

the lecture. Every instructor should have the book, not only because of the immediate use he may make of it before his classes, but because of the additions which he may make to his own stock of knowledge.

Most young men, who become instructors in physics and chemistry, enter upon their work fresh from the college, without opportunities for acquiring expertness of manipulation. They are, therefore, so superficially acquainted with the construction and use of apparatus, that in experimenting they have ill success, and frequent failures. To this class, Dr. Frick's work will prove most welcome. It is to physics what Morfit's "Manipulation" is to chemistry; but is more valuable, in that it gives not only full details concerning the use of apparatus, but also explains carefully and minutely the construction of every complicated piece, and even gives directions by which many pieces may be manufactured at little cost. This work will also prove an important assistant to teachers in many academies, where there is little apparatus and little means to procure more. The illustrations are numerous, and of a high order. The book is well gotten up, printed on tinted paper, and strongly bound. It will prove valuable to every physical experimenter.

The publisher of Warren's well-known series of geographies has done good service to the cause of education by issuing, in the tablet form, which is so convenient and deservedly popular, and withal so cheap, a new set of School-room Maps, or Geographical Charts. The set consists of fourteen charts, mounted upon seven heavy card-board tablets. These tablets are inclosed in a portfolio. They are accompanied by a valuable Handbook for Teachers, which we shall notice at another time.

We are quite as interested in what these

geographical charts omit as in what they contain. They omit all unnecessary names and minor details, which only burden the memory of the pupil, confuse his ideas, and destroy all definite impressions.

These give complete *physical* maps of all the divisions of the world, as well as the important *political* features. While they are practically *outline* maps, at the same time they contain all the more important names, so skillfully arranged as not to interfere with the primary objects of such maps. The letters are not visible to the pupil from his chair, while the teacher, before his class, is emphatically "master of the situation." The coloring of the maps shows at a glance the elevations of the land; the drawings of the mountains very adroitly show their altitudes; and the signs which mark the localities of cities are so devised as to give the population of the cities.

The system of triangulations and relative measurements is certainly a great improvement upon the old method of teaching map drawing. It compels the pupil to gain a distinct impression of the general form and outline of the country under consideration, with its important mountain ranges, lakes, and rivers. This plan, properly pursued, must make the pupil so independent of the old trammels of copy, parallels, and meridians, that he can readily reproduce from memory a good map of the country.

It is impossible, in our space, to give an idea of the numerous points of advantage which may be gained by the use of these maps. We think that, properly taught, a class, in six weeks, may learn more of geography from any one of these tablets than has usually been taught during the entire course of many of the pupils in our public schools.

We notice several little mistakes, which the publisher will do well to correct in his next edition. In the zoological table, which, by the way, is very useful and complete, the *habitat* of rabbits includes South America. We believe that no rabbit, and only one species of hare, has been found upon that continent. In several places the coloring is defective. This can be easily remedied.

Verily, better prospects are dawning upon geography, so long neglected and so badly taught. These charts are a great advance in the right direction.

(6) *PHYSICAL TECHNIQS; or, Practical Instructions for Making Experiments in Physics and the Construction of Physical Apparatus with the most limited means.* By Dr. J. FRICK, Director of the High School at Freiburg, etc. Translated by John D. Easter, Ph. D. Professor of Natural Philosophy and Chemistry in the University of Georgia. Philadelphia: Lippincott & Co. 8vo, pp. 467. \$3.

(3) *WARREN'S GEOGRAPHICAL CHARTS FOR SCHOOLS*, accompanied by a Handbook for Teachers. (Fourteen charts, mounted upon seven tablets, inclosed in a portfolio.) Price \$15. J. B. Cowperthwait, Philadelphia.

## EDUCATIONAL INTELLIGENCE.

**NEW YORK.**—Under the presidency of Dr. S. W. Fisher, Hamilton College has attained to a high rank in numbers, scholarship, and good order. Sixty new students were admitted at the opening of the present year; making the whole number about two hundred. Thirteen of these are returned soldiers, who have served their country faithfully in her hour of peril, and who are now preparing to serve the Church and the State in professional life.

Vassar College, for females, at Poughkeepsie, N. Y., is now in full operation. The building has a length of 500 feet front, with a depth in the center of 171 feet, and on the wings a depth of 165 feet. It has single rooms for about 400 pupils, besides rooms for the faculty, a chapel, seating 500, art-gallery, library, etc. The institution is nearly full. Mr. Vassar is now engaged in erecting a gymnasium at a cost of \$40,000. Besides the president, there are nine professors, each having assistants.

The finance committee of the Board of Education report the expense to be incurred for the support of the public schools of the city of New York for 1866, at \$2,454,827.54.

**NEW ENGLAND.**—It is proposed to erect a Memorial Hall at Bowdoin College, in honor of the Alumni who died in the war. The Harvard College Memorial Committee has voted that an Alumni Hall be built, and that a monument in honor of the Alumni who died in the war be erected in some suitable portion of the building.

Ten scholarships of \$1,000 each, with an annual income of \$60 to \$70, have recently been founded at Dartmouth College; only one of them, however, by a resident of New Hampshire, George W. Burleigh, of Great Falls.

The prospects of Dartmouth College are constantly improving. The Fall term commences with a Freshman class of about sixty—the largest since 1860, and more than thirty have entered the other classes and the Scientific Department.

**PENNSYLVANIA.**—The trustees of Lehigh University have elected Professor Henry Coppee, of the University of Pennsylvania, the president of the faculty, and approved plans presented by Mr. Edward T. Potter, a son of the late Bishop Potter, for the collegiate buildings, which will be immediately erected at South Bethlehem, under the supervision of that gentleman as architect.

The princely endowment of Judge Pack-er will place this university at once in a position to command the best talent of the country for professors and teachers, and to take rank as a first-class institution. The course of study to be pursued is of the kind to fit its graduates for the active

business of life; and, while the dead languages will be carefully taught, they do not hold that pre-eminent position, in the curriculum, that tradition has fastened upon most of the colleges of England and America.

**ILLINOIS.**—The public schools of Chicago are overcrowded, and there are thousands of schoolless children in the city.

**SOUTHERN STATES.**—There are now in operation in Washington 25 colored schools, with 59 teachers and 3,169 pupils, in Georgetown there are four schools, with 381 pupils; in Alexandria 10 schools, with 1,082 pupils; and in the freedmen's village on Arlington Heights two schools, with 802 pupils. All of these schools are in a flourishing condition, and are supported by the voluntary contributions of Northern benevolent societies.

While the rebel General Lee has been instituted as president of a college, his aide-camp, Colonel Venable, has been elected professor of chemistry in the Louisiana State Military Academy.

—A national association of school superintendents, composed of State superintendents, and superintendents of public schools in larger cities, is to convene at Washington, D. C., February 6, 1866.

—In the United States there are about 60,000 common schools, which are supported in part by the State treasury, and partly by school funds and school taxes.

**ENGLAND.**—King's College, Cambridge, is thrown open, for the first time since its foundation, to students other than those educated at Eton. Fellow-commoners, indeed, it has had; but now, through the liberality of one of its fellows, two exhibitioners, who have earned their reward by their own merits, will be added to the number of its undergraduates, and will be allowed to compete for its fellowships. This is one of the results of the late commission.

**SCOTLAND.**—Professor Masson, editor of Macmillan's Magazine, has been appointed to the chair of rhetoric in Edinburgh, vacant by the death of Mr. Arcton. His most formidable competitor was Dr. Hanna. Mr. Masson, though little more of a rhetorician than his predecessor, is said to be a man of varied accomplishments, wide knowledge, and genuinely liberal feeling.

**IRELAND.**—Magee College, at Londonderry, an institution which has been established for educating young men for the ministry in connection with the Presbyterian church in Ireland, has been formally opened. There was a great gathering of ministers and laymen on the occasion, and

Dr. Russel, the moderator of the General Assembly, delivered a long and able address.

—In England and Wales there are 36,042 public and private schools, attended by 2,146,478 scholars. In addition there are 1,445 evening schools, which provide for 39,788 children. The number of Sunday schools is 23,514, with 2,497,652 scholars. It is estimated that in England there is a scholar for every 836 persons; in Scotland about one-seventh of the people are at school; while in the United States there is one scholar for every five persons. In Russia only one child for about 200 persons receives instruction in school; so that while at nine o'clock on every Monday morning, there are 4,000,000 American boys and girls at school, there are in Russia only 100,000 enjoying the benefit of instruction.

GERMANY.—Herrman Vambéry has been appointed professor of oriental languages in the University of Pesth. Professor Vambéry is a Jew, a fact which is not generally known.

NORWAY.—It appears from a report presented to the Norwegian Storting that one hundred thousand children are educated in the district schools of that country, at an annual cost of eighty thousand pounds.

SANDWICH ISLANDS.—The Honolulu papers are discussing whether the vernacular of the Sandwich Islands shall be discarded in the national schools for the English language. The official journal is in favor of the pure English system. Should the project be carried out, as is probable, the Hawaiian language will become extinct within a generation or two.

## MISCELLANY.

—M. Casal has hit upon a plan by which to utilize the force of falling water, not only upon the spot, but at great distances. This gentleman proposes to convert the mechanical force of falling water into electricity. For this purpose, he has simply to make the water act upon the wheel-work, just as in the case of a water-mill, only, instead of turning the stones which grind the corn, the magnetism will act upon a magneto-electric apparatus. The electricity thus developed will then be conveyed to any required distance by means of insulated wires. The economy of the process is said to be quite as remarkable as its physical character.

—It is well known that ink is a precipitate of gallate of iron mixed up and kept in suspension in gum and water. As the water evaporates, the ink thickens, and, moreover, becomes moldy, owing to a small proportion of organic matter proceeding from the gall-nut. These inconveniences are obviated by making a new kind of ink with pyrogallie acid and the coloring matter derived from Brazil wood, and other sorts of wood used in dyeing. This ink flows well, and never turns yellow on paper.

—In France, reliable statistics show that in proportion to the increase of the sum which is derived by the government as a duty on tobacco, so has the extent of insanity, and some other diseases which have their origin in the derangement and weakening of the nervous system, increased. The French physicians say, that to no other cause than the excessive use of tobacco is the vast increase of lunacy in France to be traced.

—R. H. Allnatt, the Sussex meteorologist, has been making observations on the depositions of dew during foggy nights; the result of which is a conclusion that, in his neighborhood, at all events, the amount of dew deposited in four nights was equal to a ton and a half per acre.

—A youth, with a turn for figures, had five eggs to boil, and being told to give them three minutes each, boiled them a quarter of an hour altogether.

—It is stated that electricity travels so rapidly, that it may be driven through gunpowder without igniting it. It is only when the current is refracted that an explosion takes place.

—M. Robinet, a French chemist, has devised a very effective means of freeing the sewers from deleterious gases. He proposes that the furnaces of factories shall derive their supply of air from the sewers. The latter will thus be emptied of their mephitic gases, which will be destroyed by combustion, fresh air from the atmosphere supplying their place.

—We seek redress for injuries; we find it in-juries.

—An old Scotchwoman having been asked her opinion as to "the new minister," said he was a particularly powerful preacher—"He had na' been in th' place a week before he kicket th' pu'pit a' to pieces, and banged the in'ards out o' sax Bibles."

—An enterprising quack has contrived to extract from sausages a powerful tonic, which he says contains the whole strength of the original bark. He calls it the "sulphate of canine."



—Dr. Stein, of the University of Prague, has delivered a most interesting lecture on the subject of the "Main Results of the Latest Researches as to Infusoria." The doctor reviews, in a very elaborate and able manner, the theories advanced during the past century respecting the propagation and existence of "infusorial animal life," and concludes with the assertion—the result of his study—that the smallest forms of animal life are only brought forth in like forms of the same species, and that under no circumstances are they developed from inert matter.

—A negro who had learned to read, wishing to give an idea of it to some of his acquaintances, who had never seen a book, said, "Reading is the power of hearing with the eyes instead of the ears."

—The term "sun-spot" conveys the idea of a mark on a flat surface. It is really an enormous hollow, with sloping sides, penetrating entirely through the photosphere of the sun—the black part, or "umbra," being at the bottom—and is supposed to be the real body of the sun. As seen in England lately, this black part of the spot was rather more than nine thousand miles in length, while the greatest length of the opening formed by the sloping sides, or penumbra, was about twenty-nine thousand miles. These sides were very deeply furrowed from top to bottom, very similar to water-courses cut by torrents in descending the steep slopes of a mountain.

—An affectionate backwoodman's wife, who looked on while her husband was struggling fiercely with a bear, said afterwards that it was "the only fight she ever saw in which she did not care who won."

—A fluid for rendering paper waterproof may be made by dissolving one ounce and three-quarters of pure tallow-soap in water, then adding a solution of alum in quantity sufficient for the complete decomposition of the soap. This fluid ought to be mixed with the paper pulp, which may be worked up in the usual manner, but needs no glueing.

—"How is it," said a man to his neighbor, "that our parson, the laziest man living, writes those interminable sermons?" "Why," said the other, "probably, after he begins writing, he is too lazy to stop."

—English medical men are strongly advocating the disuse of technical words and phrases, and the movement has already progressed so far that all the "first-class" London physicians are writing their prescriptions in English.

—M.M. Deville and Troost have proved that platinum and iron, when white hot, become for the time porous, and are rapidly permeated by hydrogen, which will even pass out under the pressure of the atmosphere, and leave a vacuum almost perfect within the tube.

—In the scale of virtues, Integrity holds the first place; Benevolence, the second; and Prudence, the third. Without the first, the latter two can not exist; and without the last, the former two are often rendered useless.

—Deep learning will make you acceptable to the learned; but it is only an easy and obliging behavior and entertaining conversation that will make you agreeable in all companies.

—Ugly people are as anxious as handsome ones to perpetuate their features; probably, having lived so long with their ugliness, they have become attached to it.

—The time we live ought not to be computed by the number of years, but by the use that has been made of it.

—If you would be known and not know, vegetate in a village; if you would know and not be known, live in a city.

—The repriminations of married couples resemble the sound of waves on the shore—they are murmurs of the tied.

—A Scottish advocate, who, in his broad Scotch, pronounced the word water *watter*, being asked in court by the chancellor if he spelled water with two t's, replied, "No, my lord; but I spell manners with two n's."

—A coal-digging machine has been exhibited at Pittsburgh. The machine has, on one side, a double engine. The power is used to drive a series of cog-wheels which communicate with smaller cogs connected with eleven pairs of augers. At the end of each is a drill. When in the mine, the machine rests upon a small track, along which it is propelled by its own power. Above this track is a pair of trams on which the machine slides backward or forward as the augers penetrate the rock, or are withdrawn, all the motions being performed by the machine itself.

—An extraordinary genius has been discovered in Ireland in the person of a lad sixteen years of age. The lad has constructed, entirely unaided, a piece of machinery, in full motion, occupying a ground space of some six or eight feet square, and driven by a small waterwheel about four feet in diameter. On a close inspection it was found that the various wheels, cogs, cranks, and spindles were entirely wood, and were performing simultaneously the varied operations of pumping, churning, hammering on an anvil, perpendicular saw, diagonal and circular saw, etc., but so cleverly adapted to these respective uses that the whole was driven with the most perfect and easy motion by the waterwheel already alluded to. The lad is the son of a blacksmith living in Knockruth, County Wicklow, and has never been ten miles from his home.

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And now mark the value of such knowledge. In a time consideration, what saving! Instead of schools being closed or suffered to decline until the right man turns up, one is provided whose caliber is known—"The right man in the right place." The loss of time, misdirection of talent, imposition by unprofessional charlatans, each in itself no small misfortune to patron or pupil, are happily avoided.—REV. SAMUEL LOCKWOOD, *Keyport, New Jersey.*

See Teachers' Bulletin on next page.

# Worship in the School-Room.

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**Dear Sir,**—I present you specimen pages of the above-named Manual of Devotion, which is now in press. The work has grown out of the wants felt in my own experience of ten years as a teacher. In addition to the combination of Praise, Prayer, and the Study of God's Word, each lesson presents at its commencement a topic which is the key-note of the entire service.

Allow me briefly to call your attention to three things in regard to the book:—**Its Object; Its Plan; and the Mode of Using it.**

**I.—The Object.** (a) is to secure individual attention and united expression throughout the entire service; (b) to suggest important *doctrines* and duties in such a manner as to arrest the attention and awaken the interest of the young; (c) to familiarize the minds of youth with the teachings of divine truth on all the great questions of life, and with the richest and sweetest treasures of sacred song; (d) to aid in preparing the sons and daughters of our institutions of learning more fervently and effectively to join in the devotions of home and of the great congregation. In one word, its object is to aid in *educating* (both by instruction and by development,) each student, as an accountable religious being, in the performance of his highest duty, and the enjoyment of his greatest happiness.

**II.—The Plan.** (a) In preparing the book, the first step was to form an outline of the great Doctrines and Duties of Religion, as these regard God and Man; giving prominence to such as especially claim the attention of youth, and tend to shape the course of life. (b) Selections of Scripture were then made, enforcing and illustrating the given topic by precept, narrative, &c. These selections were afterwards arranged with a view to make them suggestive of the various bearings of the subject as far as practicable. (c) After that, appropriate psalms and hymns were chosen, keeping constantly in view the combination of strength and beauty, so that the choicest spiritual and poetical productions of our language, in youth might be treasured up for counsel and comfort in after life. (d) The adaptation of music to the hymns was considered a most important and difficult matter: several leading composers were consulted, and the final arrangement and adaptation of the music to the words was placed in the hands of T. J. Cook, of New York, whose name is a guarantee for the judicious execution of the work. (See Musical Introduction in the Book, by Mr. Cook.) (e) In view of the fact that many young teachers might hesitate, unaided, to lead their pupils in prayer, each page of the lesson was placed in the hands of some earnest Christian educator, and after its perusal, a prayer was written by him, adapted especially to that particular lesson. We have thus more than 250 leading minds, of all evangelical churches in our loyal land, participating in the service of prayer, thus securing a variety, freshness and adaptation which could be obtained in no other way.

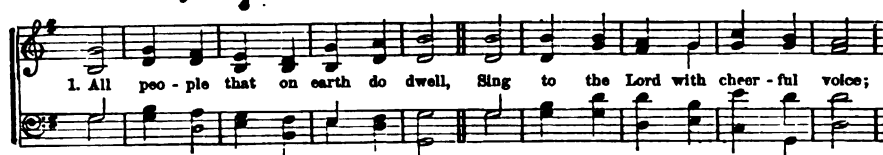
**III.—The Mode of Use.** (a) While the book is not arranged by any formal division of days, months or times, it furnishes material for more than every school-day in the year. (b) Each pupil should have a copy of the *lessons*, (the book will be bound in two editions, the *lessons without the prayers* for the pupils.) The teacher proceeding in course, or selecting, or calling on a pupil to select, a lesson for the day, all join in singing the psalm or hymn chosen. The teacher will then read the first verse of the Scriptures, one-half the school read the second verse in *concert*, the other half read the third verse in like manner and so around. (c) The teacher, (all bowing on their desks,) leads in prayer, using in whole or in part the form prepared, or directing the service in his own language. A Sabbath lesson might be assigned for study on that day, and at least a portion of it memorised.

Having tried as briefly as possible to explain the Object and Plan of the work, with the Mode of Using it, I would be happy to send you a specimen copy of the complete work (making over 500 pages, with prayers included,) with a view to its introduction into your institution. Should you order a copy for examination, I will enclose a circular with it, proposing *special terms for its introduction*. For a single copy, by mail, postage pre-paid, enclose \$1.85. In case you wish to order several copies by express, enclose \$1.50 for each. The retail price of the book, complete, is \$2.50; the lessons alone retail at \$1.50.

Should you wish a copy, please give your address FULLY AND DISTINCTLY, and the book will be sent as ordered.

For information, in regard to terms for **Introduction**, address

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1

**A**LL people that on earth do dwell,  
Sing to the Lord with cheerful voice;  
Him serve with fear, His praise forth tell,  
Come ye before Him and rejoice.

2 Know that the Lord is God indeed;  
Without our aid He did us make;  
We are His flock, He doth us feed,  
And for His sheep He doth us take.

3 Oh, enter, then, His gates with praise;  
Approach with joy His courts unto;  
Praise, laud, and bless His name always,  
For it is seemly so to do.

4 For why? the Lord our God is good,  
His mercy is forever sure;  
His truth at all times firmly stood,  
And shall from age to age endure.

*Sternhold—Hopkins.*

2

**T**HEE we adore, eternal Lord!  
We praise Thy name with one accord;  
Thy saints who here Thy goodness see,  
Through all the world do worship Thee.

2 To Thee aloud all angels cry,  
The heavens, and all the powers on high:  
Thee, Holy, holy, holy King,  
Lord God of hosts, they ever sing.

3 Th' apostles join the glorious throng;  
The prophets swell th' immortal song;  
The martyrs' noble army, raise  
Eternal anthems to Thy praise.

4 From day to day, O Lord, do we  
Highly exalt and honor Thee!  
Thy name we worship and adore,  
World without end, for evermore.

*Unknown.*

**W**HAT is man, that thou art mindful of him? and the son of man, that thou visitest him? For thou hast made him a little lower than the angels, and hast crowned him with glory and honor.

2 O Lord, open thou my lips: and my mouth shall show forth thy praise.

3 Evening, and morning, and at noon, will I pray, and cry aloud: and he shall hear my voice.

4 Thus will I bless thee while I live: I will lift up my hands in thy name. My soul shall be satisfied as with marrow and fatness; and my mouth shall praise thee with joyful lips.

5 All the earth shall worship thee, and shall sing unto thee; they shall sing unto thy name.

6 It is a good thing to give thanks unto the Lord, and to sing praises unto thy name, O Most High;

7 To show forth thy loving kindness in the morning, and thy faithfulness every night.

8 O Lord, thou art my God: I will exalt thee, I will praise thy name: for thou hast done wonderful things; thy counsels of old are faithfulness and truth.

9 This people have I formed for myself: they shall show forth my praise.

10 In the Lord shall all the seed of Israel be justified, and shall glory.

11 Therefore the redeemed of the Lord shall return and come with singing unto Zion; and everlasting joy shall be upon their head: they

12 Herein is my Father glorified, that ye bear much fruit; so shall ye be my disciples. If ye keep my commandments, ye shall abide in my love; even as I have kept my Father's commandments and abide in his love.

13 Father, I will that they also, whom thou hast given me, be with me where I am; that they may behold my glory which thou hast given me: for thou lovedst me before the foundation of the world.

14 He that overcometh shall inherit all things; and I will be his God, and he shall be my son.

15 And he carried me away in the spirit to a great and high mountain, and showed me that great city, the holy Jerusalem, descending out of heaven. And I saw no temple therein; for the Lord God Almighty and the Lamb are the temple of it.

16 And the city had no need of the sun, neither of the moon, to shine in it: for the glory of God did lighten it, and the Lamb is the light thereof.

17 And the nations of them which are saved shall walk in the light of it: and the kings of the earth do bring their glory and honor into it:

18 And the gates of it shall not be shut at all by day: for there shall be no night there.

19 And they shall bring the glory and the honor of the nations into it.

20 And there shall in no wise enter into it any thing that defileth, neither whatso-

## Prayer.—Lesson I.

**A**LMIGHTY GOD, we adore and bless Thee as the Author of our being, and the Giver of all our mercies. We acknowledge Thee as God over all, blessed forever more. Thou art worthy to be praised, and loved, and had in reverence of all Thy creatures. Thou art glorious in Thy holiness: fearful in Thy praises: doing wonders. Heaven and earth are full of the majesty of Thy glory.

We praise Thee for what Thou art in Thyself, and for the revelation Thou hast made to us of Thy glorious perfections in the person and work of Thy blessed Son, our Saviour, Jesus Christ.

We thank Thee for that blessed Word in which this revelation is contained. Teach us to love that Word. Help us to understand it. May we make it our guide, and walk in the light of it. Open our eyes, that we may behold wondrous things out of Thy law. May it be sweet to our taste as the honey, and the honey comb. May we esteem it more than our necessary food; and rejoice in Thy Word as one who findeth great spoil.

Especially help us to learn from it the purpose for which Thou hast sent us into the world. May we be fully awakened to the important truth, that the great end for which we were created, is that we may know Thee, and love Thee; may glorify Thee, and enjoy Thy blessed presence forever.

Teach us to know that we never can begin to secure this object of our creation till our hearts are changed by Thy converting grace, and we are made new creatures in Christ Jesus. May we seek *first* the kingdom of God and his righteousness, assured that all needful things will then be added.

Lead us to true repentance, and a living faith in Thee. Help us to consecrate ourselves to Thy service and glory. May the language of our hearts continually be, "Lord, what wilt Thou have us to do?" Make us feel that we are not our own, but are bought with a price, and are bound to glorify Thee with our bodies and our souls, which are Thine. . Whatsoever our hands find to do, may we do it with our might.

Be Thou our Guardian and Guide. Help us in all our ways to acknowledge Thee, that Thou mayest direct our steps.

May we look not at the things which are seen and temporal, but at those which are unseen and eternal; and whether we eat, or drink, or whatsoever we do, may we do all to the glory of God.

These things we humbly beg, and whatever else Thou shalt see to be convenient for us, through Jesus Christ, our Lord. Amen.

*Richard Newton.*

# EDITORS, PASTORS AND TEACHERS IN FAVOR OF THIS WORK.

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A few extracts from notices by those who have seen the plan or proof sheets of the book, as well as from letters received relating to it, may not be out of place here.

One of the **Editors** of the **Chicago Tribune** having seen some of the proof sheets, writes as follows:

"**WORSHIP IN THE SCHOOL-ROOM.**—To show your readers how thoroughly Messrs. SCHERMERHORN, BANCROFT & Co. are taking hold of their mission, and with what enlightened intelligence they are extending its functions, let me state that I looked over the proof sheets of a beautiful forthcoming school volume with the above title, prepared with the greatest care, and by consultation and aid of some of our most distinguished clergymen, and under the authorship of a leading educator,—a School Prayer and Singing Book, to guide and give elevation to the daily devotions of the school room. This will fall cold on the ears and attention of many who are interested in public education, but there are thousands on thousands who believe that Christian influences are nowhere more to be coveted than in the school room, and with these the publication of Rev. Mr. Wylie will be adopted with an instant favor that will bless both author and publishers."

The **Principal** of a flourishing New England Seminary, who is well known as the author of some Educational works, writes as follows:

"I will do what I can to bring your book into notice and use, for in so doing I shall subserve the interests of Christian Education."

Another **Minister** writes thus:

"I am much pleased with the plan of your book. With the efforts necessary to introduce your publication into our Schools and Seminaries of learning and elsewhere, I trust, by the blessing of God, your largest expectations will be realized."

The **Principal** of one of the most successful Academies for boys, in Pennsylvania, when contributing a Prayer for the book, closes an accompanying note by saying:

"Wishing you every possible success in your timely undertaking, I beg to be a subscriber, and will order more if required."

From a letter written by a well known **Pastor**, of one of our large city churches, I make the following extract:

"You have my best wishes for success in your present effort, for whatever shall contribute to a more regular, intelligent and devotional reading of God's ever-blessed word must be productive of good."

Another **Clergyman** writes:

"I enclose, according to your request, my contribution to the work you are preparing. Such a work is truly a desideratum, and I trust yours may fully meet the existing necessity."

A specimen page having fallen into the hands of the **Editor** of the **Banner of the Covenant**, the following notice appeared in that paper:

"Rev. W. T. WYLIE, principal of the Milton Classical Institute in this State, is engaged upon a work of much interest and value to Christian instructors, a specimen of which has been submitted to our inspection. It is a book of Scripture lessons, with appropriate psalms or hymns set to music accompanying each, for the opening service of the school. A leading religious topic is selected, and passages without note or comment are gathered from various parts of Scripture as they bear on the topic, forming a continuous, interesting and instructive lesson. The idea and plan of the work are excellent, the execution of the specimen page was exceedingly handsome and tasteful. We sincerely hope Mr. Wylie will have great success in his undertaking."

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# AMERICAN EDUCATIONAL MONTHLY.

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VOL. III.

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## AN OLD FIELD SCHOOL.

**D**O the readers of the MONTHLY know what is meant by an "old field school?" I have never heard the term except in Virginia, and even there it is fast falling into disuse. Thirty years ago, the Old Field School was an honored institution in Virginia. Washington, Henry, Randolph, Jefferson, Monroe, and many others whose names are illustrious, had spent their early days within its rough-hewn walls, and under the eye of some Dominie Sampson, whose birchen rod was considered a more able coadjutor than any text-book of the day. Academies, seminaries, institutions, were unfamiliar words to my childish ears; but old Gocomico school-house, how vivid is my remembrance of it! It stood remote from all habitations, at the edge of a stunted pine-wood, a wide old field stretching away in front; while beyond was the pebbly beach and rushing waters of the Potomac, and, far in the distance, the faint blue shores of Maryland. The hall was a low, dark room, built of unbarked pine logs, slabs of the same material forming the roofing. The light was admitted by two long loop-holes, formed by the omission of a log on opposite sides. The desks were ranged beneath these, the children thereby receiving not only a sufficient quantum of pure air, but often snow or rain commingled with the needful oxygen. The teacher's seat, opposite the only door, was honored by having a single pane of glass inserted in the wall. There stood his small pine-table, adorned with a ruler, an inkhorn, and sundry bunches of quills. Beside this was his high-backed, rush-bottom chair; and, leaning against the wall at his side, was the much-dreaded bundle of rods. Schoolmaster Sutherland was an old man, and inclined to the fashions of an olden time. His long white hair was knotted in a queue. The rubicund complexion indicated that temperance was not an essential qualification of a pedagogue. Yet he was hale and strong, as many a lad could testify. An Englishman by birth, tradition said he had once trodden the halls of Oxford, and was a graduate of Cardinal College; but, being the victim of unfaithful love, he had left England forever, and had buried himself in the wilds of Virginia, gaining his daily bread by teaching the Old Field School. He was, no doubt, a learned man; but

dissipation and misanthropy had dulled his intellect, and dried up the milk of human kindness in his heart. His pupils, varying in age from the child of six to the lad of seventeen, were the sons of the gentlemen and farmers of the surrounding neighborhood. These he drilled pitilessly in the Latin grammar, and woe to him who erred in case or declension. This, with Pike's Arithmetic and Adams' Geography, formed his "Circle of the Sciences." To the art of writing he paid much attention. One excellence, which is not so common at present, his pupils certainly attained to—that is, writing clearly and neatly, and spelling correctly.

One mellow autumn day, when nature had put on all her colors and veiled them over with silver tissue, was the last day of school at old Gocomico. I had idled on my way to school, loth to exchange the blue sky and purple river for the dingy school-room. I stole noiselessly to my seat, congratulating myself that the master had not seen me. His head was on his hand, his elbow on the table. A class of "juniors" were reciting a paradigm of the first declension of nouns, *sylva*. Twice did one boy give the wrong case-ending, and yet the old man had not raised his head, and the birch-rod was motionless. The older boys exchanged glances, and whispered something of intoxication. That class dismissed, a senior boy went forward to ask an explanation of a problem in the "Double Rule of Three." Several times did the boy state the question, and yet the master did not look up, but only replied in a dreamy manner, using a familiar phrase with him—"Ruminate and devise, lad; ruminate and devise." The boy returned to his seat, and an hour passed. A hush brooded over the room; a mysterious presence kept the boys quiet. At last the old man roused, removed his hands from his eyes, and looked around. A pallor was on his face that I had never seen there before.

"Lads, lads, lads," he said, slowly, "you may go home, and tell them Schoolmaster Sutherland is going to another school."

Some of the boys, not understanding, gathered around for explanation. But the master's mind was wandering, and he did not hear them. He went on, as if addressing a class—

"First conjugation—infinitive ending—*a—e—e—Amo—Amas—Amat—Amamus—Amatis—Amant*. Mere words, lads, mere words! for she said, 'Amo,' once. Ellen said—" And again his head dropped down on the pine-table. The frightened boys spoke to him again and again; but it was all useless.

Schoolmaster Sutherland was dead. The pupils are scattered over the world now, and the Old Field School-house has long ago disappeared.

---

THE shadows of the mind are like those of the body. In the morning of life they all lie behind us; at noon we trample them under foot; and in the evening they stretch along and deepen before us.

## MINNESOTA.

## ITS PHYSICAL FEATURES, SOIL, AND CLIMATE—ITS EDUCATIONAL CONDITION AND PROSPECTS.

*Area and Population.*—The State of Minnesota was admitted into the Union in the year 1858. Its population in 1860 was 170,000. In 1865 it was 250,000, showing an increase of nearly fifty per cent during five years of destructive civil war. At this rate, it will double its population in ten years. Since the close of the rebellion, the influx of immigrants has been very great, and warrants the belief that ten years will not elapse before it will have a population of half a million. It embraces a territory of 83,521 square miles, equal to nearly two States like New York or ten like New Jersey. It extends from the British Possessions on the north to Iowa on the south, and from the Mississippi and Lake Superior on the east to the Red River of the North on the west. The sources of the Mississippi are within this State, that river being navigable 150 miles within its borders. The Falls of Saint Anthony, a few miles above the head of steamboat navigation, furnishes one of the most valuable water-powers on the continent.

*Topography, Soil, Productions.*—The surface of the State constitutes the summit of the great water-shed from which flows the Mississippi to the south, the Red River to the north, and the St. Louis and other lesser streams to the eastward into Lake Superior. Much of the southern portion consists of exceedingly productive rolling prairies. The atmosphere is singularly dry, and the climate remarkable for its salubrity. The black soil yields enormous returns to the busy husbandman. The wheat produced in 1865 is not less than 10,000,000 bushels. A comparatively small portion of the lands is yet brought under cultivation. The yield of the last season is said to average from twenty-five to thirty bushels per acre for the whole State. Some tracts are said to have produced over fifty bushels per acre. Corn matures and ripens within three months from the planting. Potatoes, turnips, and other esculents are produced in great quantities. The scenery flanking the Upper Mississippi is beautiful and grand. Through several hundred miles it is one continuous highland, superior in its attractions to the Highlands of the Hudson. It is truly the land of the "Laughing Water." Clusters and chains of lakes abound in all directions; there being, it is said, not less than ten thousand of these charming expanses.

*Basis of Civilization.*—To a State thus favored there can not be other than a splendid future. This region seems adapted to the development of a noble civilization. The majesty of the hills, the broad sweep of the prairies, the grandeur of the great river, now "gliding unvexed to the sea," the placid beauty of the *Mille Lacs*, and the murmuring music of the

merry waterfalls, all invite to greatness of mind, to largeness of heart, to energy of endeavor, and purity of purpose. There is a tremendous educating power in such a heritage as this. It is a powerful, eternal protest against the littleness generated by narrow State lines, the mental barrenness provoked by sterile sand-banks, and the moral corruption which naturally enough finds a congenial soil in the miasmatic effluvia of interminable swamps.

*School-Fund.*—The men who laid the foundations of the State, seem to have been inspired by the colossal facts which everywhere confronted their gaze. One-eighteenth of the entire domain was dedicated to the work of educating the people. That is to say, 4,640 square miles or 2,969,600 acres of the best lands in the State, were set apart for the creation of a fund for the support of common-schools. The minimum price at which these lands should be sold was fixed by law at five dollars per acre. The sales were commenced three years ago, and the average price realized is nearly \$6.50 per acre. The fund thus accumulated and securely invested, in three years, lacks but little of a million dollars, and the sales are but just begun. Governor Swift while in office, after a careful estimate of the value of these lands at the legal minimum, declared that the income to be derived therefrom would eventually be sufficient to support a school-system equal in efficiency to that of Massachusetts, for a population as dense as is that of the old Bay State. Minnesota is more than ten times as large as Massachusetts, whose population is not less than 1,250,000. A population of equal density would give 12,500,000 people to this State, and these figures, assuming the governor's estimate to be correct, will give some clue to the prospective value of the school-fund in store for her people.

*School-System.*—The school-laws are yet somewhat crude and ill-digested, but the code comprises within itself all the elements of a perfect system.

A normal school is in successful operation at Winona. It has a system of county supervision, the adoption of which was by law judiciously left optional with the respective counties. This law was made in 1863. About twenty counties have voluntarily accepted its provisions, and are now reaping, to greater or less extent, the advantages of a wise supervision. The salaries paid the superintendents in some cases are as high as \$1,000 per year. The other counties will soon avail themselves of this valuable aid to educational advancement. Institutes are annually held where superintendents have been appointed, and are exerting a marked influence upon the schools.

*Educational Prospects.*—The New England States being largely represented in the population, education finds great favor with the people; Minnesota must soon be in the front rank.

As an indication of the spirit of the people, we give some facts about

school architecture at some of the prominent points. St. Paul, with a population of 12,000, has erected four public school-houses, costing—one, \$6,000; two, \$8,000 each; and one, \$20,000. The last is one of the most imposing structures of the kind in the Northwest. Minneapolis, with a population of 5,000, is now erecting a school-building at a cost of \$25,000, in place of one destroyed by fire in 1864. La Scur, a small village, has recently completed a building at a cost of \$4,000. Mankato, with a population of about 2,000, is building a school-house at a cost of \$10,000. Red King, above Lake Pepin, is finishing a building at a cost of nearly \$20,000. Chatfield, in Fillmore County, about thirty-five miles southwest from Winona, has just dedicated a school-house costing \$6,000. Lake City, with a population of 1,500, recently opened her public-school in a brick edifice erected at a cost of about \$10,000. Winona is preparing to build one at an expense of \$30,000. Other places are moving with like liberal intentions. Is not this a fair record for a State only eight years old? It is only a beginning. It is estimated that the State Normal School building will cost from \$50,000 to \$75,000. This will undoubtedly be commenced in the spring, and when completed, will compare favorably with similar edifices in older States. With such material and social advantages, no State offers greater inducements to the seeker of a good home than does Minnesota, the "Laughing-Water State."

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### THE FIRST ADVANCE.

**H**OW to commence the education of children is an important question. The best answer to it is, follow nature and the inclination of the child. Almost all young children have their specialties. Any one of these can be used as a medium for the admission of other necessary portions of education. For example—this communication is written in presence of a child who, at three years of age, exhibited a preference for the study of animal life. Goldsmith's *Natural History* was given to it, in which there are three hundred pictorial representations of different animals. The child could not read, but, by questioning its elders, it soon learned the names of the beasts, birds, etc., depicted. As it earnestly wished to know the habits of the various creatures, and could not, save through the kindness of its playmates, it acquired the knowledge of the use of reading. But the white bear and the lion live in different localities—enter Geography. Again, some animals are formed to live on land, others in the sea, and some may be said to tenant the air—Natural Philosophy is waiting for admission. It would be tedious to carry this statement further; suffice it, all the elements of an English education could be introduced under the requirements necessary for the development of this one study of *Natural History*.

If there is manifested no special inclination, an opening can be artificially created ; as : "Joe, you have been a good boy, you may run to the store and buy yourself an apple. But I have no small change, and you can not count money, so you must wait until I come home from the city, when I will bring you one." Joe studies this lesson, and soon acquires the knowledge of the use of arithmetic. In a short time he asks to be taught to count money. The child desires to enter, and the door is opened. The battle is half won ; and, as before, through this gate you can naturally and easily bring in Arithmetic's brothers and sisters. No lesson ought to be placed before a child, until the need of it has been exhibited and proved to the little one's satisfaction. It is important that the will of the child to learn should precede the offer of the parent to teach. This is the natural and proper way in which to commence the education of children.

Affection also can almost always be relied upon as a means by which to establish a proper entrance for early knowledge. When William Cobbett was imprisoned in Great Britain for the free expression of his political opinions, he required and received weekly letters from all the members of his family. Some of his children were very young: they did not know how to write. They, however, sent scrawls to their father. He carefully answered these hieroglyphics in a few short words. "What a pity, Richard, you can't write like your sisters—something that father can read," said Mrs. Cobbett. Jane has her letter in her hands, but she can not read it. She can learn her lesson from it though—it is, the necessity for the knowledge and the use of reading. The child is ready and willing to advance up the hill of learning ; it will not ascend it less rapidly because it is not driven forward on its journey.

Both parents and teachers should remember that the word education means "to lead out." Under the old system, the practice of which is by no means extinct, it might be presumed to imply—"to cram in." Such is education on the Blimber principle. A school or family so conducted, may be said to consist of so many little vessels exposed daily to be filled with a certain quantity of orthography, arithmetic, etc., properly weighed and labeled, with directions to be taken at regular intervals, and at certain specified periods. It is melancholy to behold the rows of little patients taking their morning and afternoon medicine, as thus administered. The tortures of Luke under his iron crown, or Regulus in his barrel, could scarcely surpass the mental and physical agonies sometimes suffered by the little martyrs when racked on these Procrustean beds, in order to advance their growth in irresistible intelligence and dogmatic wisdom.

---

IMPORTANCE OF PUNCTUATION.—"Wanted : A young man to take charge of a pair of horses of a religious turn of mind." A school committee-man writes : "We have a school-house large enough to accommodate four hundred pupils four stories high."



## HOMINITIC GEOGRAPHY.

[Said to have been prepared for the late Exhibition in Slouttown Academy.]

*Dramatis Personæ*—TEACHER AND PUPILS.

[Each pupil may recite more or less, according to the number of pupils. Names are left to the option of the teacher.]

*Teacher.* What lesson have we to-day?

*Pupil.* The Anthropean Confederacy.

*T.* Of how many states does this confederacy consist?

*P.* Five.

*T.* Name them.

*P.* Matter-o'-money or Matrimony, Single-Blessedness, Despondency, Perfection, and Bliss.

*T.* Give the situation of the confederacy.

*P.* Its situation is somewhat uncertain, extending through many degrees high and low. It is, however, bisected by the meridian of life.

*T.* Bound the state of Matrimony.

*P.* It is bounded on the north by the land of Milk-and-Honey, on the east by Single-Blessedness, on the south by Despondency and Perfection, and on the west by Bliss.

*T.* What can you say concerning this state?

*P.* Very little is known respecting it. Those who have attempted to explore it have seldom returned. It is popularly supposed to be a pleasant country, abounding in delights; but the few who have escaped by way of the Divorce and Desertion Railroad represent it as especially productive of briers and broomstick material.

*T.* What is the character of its inhabitants?

*P.* They are very peculiar. They often disturb the peace of their neighbors by petty commotions. Their literature is said to consist principally of curtain lectures—a species of amusement unknown in other countries.

*T.* What is the capital of this state?

*P.* Loveburgh, on the River Truelove. A populous town, yet utterly without public spirit.

*T.* State the peculiarity of the Truelove.

*P.* It is an insignificant stream, and, frequently dries up. In freshest seasons it is very turbulent. The old proverb says, its course never runs smooth.

*T.* What town in the interior, noted for bald heads, elopements, etc.?

*P.* Henpeckton. Its inhabitants are a dismal race. The men undergo great sufferings. The women possess all authority, and oppress the town.

*T.* Would any of you like to live there?

*Class (emphatically).* No, sir.

*T.* In what state do we live?

*P.* In the state of Single-Blessedness.

*T.* Bound it.

*P.* It is bounded on the north by the Gulf of Oblivion, on the east by Time's Ocean, on the south by Despondency, and on the west by Matrimony.

*T.* Describe this state.

*P.* It is the most delightful state of the confederacy. The inhabitants are gay, and give much attention to the fine arts—pleasing, deceiving, and the like. Great accuracy has been attained in dress, smiling, and in articulating the language.

*T.* What are the chief occupations of the people?

*P.* Hunting and fishing.

*T.* For what?

*P.* The men hunt for companions, and women fish for beaux.

*T.* What is the capital?

*P.* Flirt-town, on Jilting Creek.

*T.* For what is Flirt-town noted?

*P.* For its marriageable old women and gay young men; for broken hearts and sore disappointments; also, for the large number of persons annually reported as "engaged."

*T.* Are there any other important towns in the state?

*P.* Breach-of-Promiseville and Coquetton; situated near each other.

*T.* For the next lesson, the class may take the states of Despondency and Perfection. Any questions to be asked about the lesson?

*P.* (*raising his hand.*) Do you live in Flirt-town, on Jilting Creek?

*T.* Why, Johnny?

*P.* I heard ma tell some ladies the other day that you were engaged to Susan Miller.

*T.* (*sternly.*) John, you may stay after school. The class is dismissed.

**IMAGINATION.**—The beautiful faculty of the imagination, when it has been properly trained, is a perpetual well-spring of delight to the soul; but, when foully or improperly trained, is a source of constant uneasiness. Its functions are mixed up with all our joys and our miseries. The words Fancy and Imagination are often used as if they meant the same thing. Fancy is the painter of the soul. Imagination has an ampler mission, and does more than mirror outside objects to the soul. It takes up the conceptions we have formed, and improves on them; arranges them in novel combinations; and, from the exact delineation or portrait of things transmitted through the senses and retained by memory, it works up new ideas. Imagination is the poet of the soul.

## WONDERFUL PROPERTIES OF FIGURES.

**T**HOUGH figures constitute a universal language among the civilized nations of the earth, and maintain such an exalted character for honesty and truth that it has passed into a proverb that "figures can not lie;" yet they are treated as the mere slaves of calculation, without any regard for that respect and consideration to which their peculiar qualities entitle them. To rescue them from the degradation of being looked upon as mere conveniences, let us see if they are not possessed of certain intrinsic properties which shall excite our wonder and admiration.

Few people have a clear conception of even "a million of dollars." Mr. Longworth, who recently died at Cincinnati, was said to be worth fifteen millions of dollars. How many days would it take to count that sum, at the rate of fifty dollars a minute, working steadily ten hours each day? While some are guessing four or five days, another a week, another two weeks or a month, the operation may be made mentally. Fifteen millions divided by fifty gives three hundred thousand minutes; divided by sixty gives five thousand hours; divided by ten gives five hundred days! An answer which is sure to strike your guessers with amazement; a remarkable instance of the difference between guessing and thinking.

The powers of the human understanding are limited. The increase of figures has no limits. Our knowledge of numbers, therefore, must necessarily be limited. But, like every other subject, the more we study and think about it, the more we shall know. A distinguished philosopher, to whom the world is indebted for some of the grandest truths of science, has said that, without any extraordinary endowment of mind, by thinking long and deeply on this subject, point after point gradually unfolded itself to his mental vision, until he was able to comprehend the mighty laws which control the universe.

The child who has learned to count as far as three, has an idea of that number; but the number thirteen is quite beyond his comprehension. The savage gets along very well with his arithmetic, so long as he is not required to go beyond the numeration of his fingers and toes; but any greater number quite bewilders his imagination, and, in despair, he refers to the hairs of the head, the leaves of the forest, or the sands on the seashore, to express his overwhelming sense of its magnitude. Every young student of history has laughed at the extreme simplicity and ignorance of the Indian whom Powhatan sent to England to see the country and find out how many people were there. As soon as the shores of England were reached, the "poor Indian" procured a long stick and commenced to cut a notch on it for every one he saw. Of course, he was soon obliged to stop.

On his return, Powhatan, among many questions, asked how many people he had seen. "Count the stars in the sky," was the reply, "the leaves on the trees, or the sands on the shore; for such is the number of

the English." Perhaps this untutored child of the forest was not so very far astray after all ; for the stars in both hemispheres, visible to the naked eye, do not exceed the number of ten thousand. The hairs of the head and the leaves of the trees may be easily counted, and the sands of the seashore are by no means innumerable.

#### POWER OF CIPHERS.

The enlightened man may have a clear understanding of thousands, and even millions ; but much beyond that he can form no distinct idea. A simple example, and one easily solved, will illustrate the observation. If all the vast bodies of water that cover nearly three-fourths of the whole surface of the globe were emptied, drop by drop, into one grand reservoir, the whole number of drops could be written by the two words, "eighteen septillions," and expressed in figures by annexing twenty-four ciphers to the number 18 (18,000,000,000,000,000,000,000,000). Man might as well attempt to explore the bounds of eternity, as to form any rational idea of the units embodied in the expression above ; for, although the aggregate of drops is indicated by figures in the space of only one inch and a half of ordinary print, yet, if each particular drop were noted by a separate stroke like the figure 1, it would form a line of marks sufficiently long to wind round the sun six thousand billions of times !

Now, observe, if you please, the marvelous power or value which the ciphers, insignificant by themselves, give to the significant figures 18. The young reader will be surprised to learn that the use of the cipher to determine the value of any particular figure, which is now practiced by every schoolboy, was unknown to the ancients. Therefore, among the Greeks and Romans, and other nations of antiquity, arithmetical operations were exceedingly tedious and difficult. They had to reckon with little pebbles, shells, or beads, used as counters, to transact the ordinary business of life. Even the great Cicero, in his oration for Roscius, the actor, in order to express 300,000, had to make use of the very awkward and cumbrous notation, CCCIDCCC CCCIDCCC CCCIDCCC. How very odd this seems—"in the year of our Lord MDCCLXVI!" (1866.)

Many curious and interesting things might be said concerning the history of numerical characters used in ancient and modern times ; but, not to prolong this article, they must be reserved for some future occasion.

#### CURIOUS CALCULATIONS.

The simple interest of *one cent*, at six per cent per annum, from the commencement of the Christian era to the close of the year 1864, would be but the trifling sum of one dollar, eleven cents, and eight mills ; but if the same principal, at the same rate and time had been allowed to accumulate at compound interest, it would require the enormous number of 84,840 billions of globes of solid gold, each equal to the earth in magnitude, to pay

the interest ; and if the sum were equally divided among the inhabitants of the earth, now estimated to be one thousand millions, every man, woman, and child would receive 84,840 golden worlds for an inheritance. Were all these globes placed side by side in a direct line, it would take lightning itself, that can girdle the earth in the wink of an eye, 78,000 years to travel from end to end. And if a Parrot-gun were discharged at one extremity, while a man was stationed at the other,—light traveling one hundred and ninety-two thousand miles in a second—the initial velocity of a cannon-ball being about 1500 feet per second, and in this case supposed to continue at the same rate, and sound moving through the atmosphere 1120 feet in a second,—he would see the flash after waiting one hundred and ten thousand years ; the ball would reach him in seventy-four billions of years ; but he would not hear the report till the end of one thousand millions of centuries.

The present system of figures is called the Arabic method, but it should be more properly termed the Indian method, because it had its origin among the Hindoos of India, from whom the Arabs learned it ; and they, in turn, carried the art into Spain, where they practiced it during their long occupation of that country.

The publication of their astronomical tables, in the form of almanacs, was the principal means of gradually spreading it abroad among the surrounding nations ; but so slow was the progress, that it was not generally established until about the middle of the sixteenth century.

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## THE NUMBER OF LANGUAGES.

**T**HE actual number of languages in the world is probably beyond the dreams of ordinary people. The geographer Balbi enumerated eight hundred and sixty distinct languages, and five thousand dialects. Adelung, another modern writer on this subject, reckons up three thousand and sixty-four languages and dialects existing, and which have existed. Even after we have allowed either of these as the number of languages, we must acknowledge the existence of almost infinite minor diversities, for almost every province has a tongue more or less peculiar ; and this we may well believe to be the case throughout the world at large. It is said that there are little islands, lying close together in the South Sea, the inhabitants of which do not understand each other. Of the eight hundred and sixty distinct languages enumerated by Balbi, fifty-three belong to Europe, one hundred and fourteen to Africa, one hundred and twenty-three to Asia, four hundred and seventeen to America, one hundred and seventeen to Oceanica—by which term he distinguishes the vast number of islands stretching between Hindostan and South America.

## MATHEMATICAL GEOGRAPHY.

THERE is probably no subject so universally studied, and so little understood by the pupil, as Mathematical Geography. The reasons for this, I think, are two, which, I concede, are equally applicable to other subjects. First, *It is presented to the pupil at the wrong time.* The first pages of nearly every primary and intermediate geography are devoted to it. Now, to pupils at the age usual to such classes, an extended treatise upon geometry would be equally intelligible. By dint of hard work, certain definitions are committed, which, if the teacher hear soon, can be recited. The same would be true of geometrical definitions, presented abstractly. But that the pupil understands them, I have never found a teacher bold enough to affirm. Yet, in spite of this, every successive class is put through the same drill, to the infinite disgust of both teacher and pupil. Second, *It is presented in the wrong manner.* Usually a book is placed in the pupil's hands, and he is told to learn more or less of this subject. Now succeeds a week or more of patience-trying recitations, until he is fairly through "zones and circles." Constant reiteration does not fail to leave some faint impressions of the subject, which usually entirely disappear before the pupil reaches the "map of Europe."

The remedy for this is as plain as the cause of the defects, and equally as simple.

First, *Present the subject at the proper time.* All will agree that it is useless to present any subject to a pupil until he is of sufficient age and development to understand it. Now, my experience has been, that no pupil in a primary school can answer these conditions in respect to mathematical geography; and it is not until we reach the second or first classes of our grammar-schools, that we can find such pupils. Pupils can be found in primaries, even, who can answer the questions in the text-book, but this is no sign of comprehension of a subject. A maturity of mind is required which can be obtained only by long training. For the subject is abstract to a much greater degree than any study of early school-life; and it is not until a pupil has had sufficient discipline of mind to enable him to grapple with the abstract, that this subject can be advantageously presented to him. We repeat, then, that this discipline is not usually reached until in the second or first class of the grammar-school. Therefore, in graded schools, the subject is more profitably presented then than at any earlier period.

Having now secured pupils capable of understanding the subject, the second requisite for success is this: *Present the subject in the right manner.* Granted; but what is that? Certainly not to assign a page of it to be committed to memory for the next day's recitation. Without claiming the following method as *the* right way, I suggest it as better than the one

usually followed. I write upon a large card or blackboard the following analysis. As we progress, I have each pupil make a copy. Some teachers may prefer a different arrangement in a few places. Some, too, would add, and some take away from it. But still the idea will be the same.

|  |  |  |                   |   |                                |   |
|--|--|--|-------------------|---|--------------------------------|---|
| GEOGRAPHY.                                 | 1. MATHEMATICAL.....                     | 2. PHYSICAL.....   | 3. POLITICAL..... | 1. Shape of Earth...                    | 1. Proofs of Globular shape.   | 1. Appearance of Ship at Sea.<br>2. Appearance of Polar Star.<br>3. Appearance of Earth's Shadow.<br>10. Analogy. |
|  |  |  |                   | 2. Size of Earth.....                   | 2. Proofs of Spheroidal shape. | 1. Varying vibrations of Pendulum.<br>2. Measurement of degree of Latitude.<br>5. Analogy.                        |
|  |  |  |                   | 3. Points, Lines, and Circles on Earth. | 1. Diameter...                 | 1. Polar.<br>2. Equatorial.   |
|  |  |  |                   |   | 2. Circumference.              |   |
|  |  |  |                   |   | 3. Area in square miles.       |   |
|  |  |  |                   |   | 4. Cubical contents in miles.  |   |
|  |  |  |                   | 4. Divisions of Earth by Circles.       | 1. Poles.....                  | North.<br>South.  |
|  |  |  |                   |   | 2. Lines.....                  | Axia.<br>Great.<br>Equator.<br>Meridiana.<br>Rational Horizon.  |
|  |  |  |                   |   | 3. Circles.....                | Small.<br>Parallela.<br>Tropics.<br>Polar Circles.<br>Sensible Horizon.   |
|  |  |  |                   |   | 1. Hemispheres                 | East.<br>West.<br>North.<br>South.  |
| 5. Motions of Earth.                       | 2. Longitude..                           | East.<br>West.   |                   |   |                                |   |
|  | 3. Latitude...                           | North.<br>South.   |                   |   |                                |   |
|  | 4. Zones.....                            | 1. North Frigid.<br>2. North Temperate.<br>3. Torrid.<br>4. South Temperate.<br>5. South Frigid. |                   |   |                                |   |
|  | 6. Position of Earth.                    | 1. Daily.<br>2. Yearly.<br>3. In Common with Solar System.                                       |                   |   |                                |   |
| 7. Effect on Earth of Motion and Position. | 1. Distance from Moon.                   |  |                   |   |                                |   |
|  | 2. Distance from Sun.                    |  |                   |   |                                |   |
|  | 3. Distance from nearest Fixed Star.     |  |                   |   |                                |   |
|  | 4. Distance from other Planetary Bodies. |  |                   |   |                                |   |
| 8. Modes of Representing Earth.            | 5. Inclination of Axis.                  |  |                   |   |                                |   |
|  | 1. Day and Night.                        |  |                   |   |                                |   |
|  | 2. Change of Seasons.                    |  |                   |   |                                |   |
|  | 1. Globe.                                |  |                   |   |                                |   |
| 2. Orrery.                                 |  |  |                   |   |                                |   |
| 3. Armillary Sphere.                       |  |  |                   |   |                                |   |
| 4. Tellurian.                              |  |  |                   |   |                                |   |
| 5. Maps.                                   |  |  |                   |   |                                |   |
| 6. Charts.                                 |  |  |                   |   |                                |   |

I commence by instructing the pupils, first, the definition of geography and its three great divisions, with definitions of each. Then, taking the first division of mathematical geography, I illustrate the shape of the earth in all practicable ways, and give as many proofs, with their illustrations, as I think the class may be able to comprehend. The next day I *educate* the pupil. He is required to produce the lesson of the previous day. He gains his knowledge for this purpose from my explanations of the day before, and from books to which he was referred.

To illustrate : without any question or direction from the teacher, the first pupil rises and gives the definition of geography ; the next, its divisions ; the next defines each of the divisions ; the next gives the eight divisions of mathematical geography ; the next, the shape of the earth ; the next gives proofs of its globular shape, etc., etc.

I then run the plowshare of some practical question through the even plane of this recitation, to discover, if possible, any rocks of ignorance or roots of errors. Finding none, I go on with the next day's lesson, which, in connection with the first day's, is reproduced upon the third day.

I find these advantages in this plan :

1. The teacher must be thoroughly acquainted with the subject : his explanations then are clear, and the pupil readily comprehends.
2. The pupil, instructed by a *live* teacher, finds the subject interesting, and, therefore, easily learned.
3. By following this outline, a number of days' lessons are easily recited in a short time. This repetition serves to fix them in the memory, and to reveal any parts not clearly understood. It also obliges absent pupils to look up the lesson given in their absence.
4. It is more sensible than the question and answer system ; and common sense is as much valued by pupils as by many who are older.

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### A SINKING CITY.

THE commune of Buonanotte, in France, is hourly menaced with utter destruction. Five manufactories have already been overthrown, and sixty-four more are threatened with imminent ruin. The inhabitants have fled in the greatest consternation to the neighboring villages. The cause of the disaster is a sudden and violent depression of the soil, which is at the present time accounted for by one of two reasons—either the fall of an immense mass of earth in the west of the district, or the yielding of the roof of an extensive subterranean cavern. But in reality nothing certain is yet known as to the cause of this most deplorable event. A number of civil engineers have hastened to the spot, and prompt measures are in course of adoption to prevent still greater disaster.



## JULIAN GURDON : SCHOOLMASTER.

## CHAPTER III.

## MAKING A BEGINNING.

THERE was neither bell nor knocker, and I was forced to beat loudly with my clenched hand upon the panels of the outer door. A distant sound, like a subdued roar, reached me after the first summons. With the second, the sound changed to a bellow, with something articulate in it, that, to my waiting ear, conveyed the welcome answer, "Come in !"

I opened the door then, and entered the hall—a large square hall, severely, coldly clean, with a yellow painted floor, and a great uncarpeted flight of steps in the center. On the whitewashed wall, between two doors, hung a smoke-discolored map of the United States, and underneath this stood a small table covered with green baize. Other furniture the place had none ; and I stood there holding the open door by one hand and my valise by the other, wondering which of the four doors leading from this cheerless apartment would admit me to the sight of fire and human faces.

I could hear voices, but no one came to greet or show me the way. I stood upon the threshold of this strange home as I did upon that of my new life, wondering vaguely, and not quite cheerfully, whither my steps were to tend, and what was to be the result.

At length the voice I had heard before disengaged itself from the mingled sounds within. Unmodulated and harsh it fell upon my ear :

"Come in, can't ye?" it said. "What on airth are you waitin' for?"

Thus adjured, I closed the outer door, set down my valise, and went forward in search of the bodily presence of the invisible voice. I opened a door on my right, and stepped into the family circle of Deacon Lawrence.

"I s'pose you thought we kep' servants here to run and open the door for you," the voice continued ; and the next moment the owner of it rose up from his great three-cornered armchair by the Franklin, where a large wood-fire burned—an elderly man, huge of form, with bushy grizzled hair, and eyebrows beneath which twinkled a pair of keen gray eyes. He did not advance to meet me, and I stood upon the threshold abashed.

"Come along in, come along in," he said, in a tone considerably softened. "You're the new schoolmaster, an't you? Come in, I say, Mr. —; you're kindly welcome."

As he said this, I had gone forward, and laid my slender boyish hand in the great brown palm stretched out to me. The last words reassured me. For once the voice was not an index of the man's nature. It was not refined nor genial, but it was kindly.

"Wet and cold, an't you?" Deacon Lawrence continued. "Lizzie, bring a chair. This is Mis' Lawrence, Mr. —." Again a pause, in which I interpolated "Gurdon." "Ah, yes, Gurdon, yes, yes; and these are my darters, Lizzie, and Ruth, and Emeline; and this is George; and this is the Widow Barnett's boy, Thomas, and the rest of them will be in by and by. Most half your school here, Mr. Gurdon. Mis' Lawrence, Mr. Gurdon ought to have his supper right off. An't it most ready?"

I had bowed all round, and now sat down shivering with cold, and overpowered with bashfulness before the fixed stare of at least five out of the seven pairs of eyes by which I was surrounded.

The mother and her eldest daughter withdrew, and a welcome sound of hissing and frying, together with a most savory smell, soon issued from the adjoining apartment, which was evidently the kitchen.

Deacon Lawrence resumed his chair and pipe, and continued to smoke and talk. The two daughters, girls of sixteen and fourteen, and the boys, younger urchins, stared at me intently. I answered in monosyllables. The dreariness of the closing day, the fierce dash of sleety rain against the windows, the unaccustomed scene, and the thought of the strange duties to which it was a prelude, all weighed upon my spirits. For the second time in my life I felt homesickness—that fever of the heart—and longed for the touch of my mother's hand, her kiss upon my brow, and her voice in my ear. That half-hour, in which I waited for my supper, was the longest of my life; and nothing but the knowledge of the utter impossibility of escape kept me from rushing out into the storm to retrace my steps. But I thought of the savory supper preparing for me; of the good deacon's attempts at my entertainment; and then came the sudden thought of how these, my future scholars, would despise me if they could once know how terribly I was afraid of them. There was something ludicrous in the idea that I, Julian Gurdon, was, in spite of my social advantages and my education, afraid of these little rustics staring at me with their round unwinking eyes, in which not much of the light of intelligence shone, and I laughed aloud.

Deacon Lawrence paused in his harangue, amazed. The staring eyes turned from me to exchange glances. But the laugh had broken the painful charm that bound me. I was myself once more, with mind active and alert. The harsh, prosy voice, the round, staring eyes no longer held me as in a spell, and, with another laugh, I lightly explained that the memory of some ludicrous incident of my journey had caused the explosion. I related it with all the humor I could bring to my aid, and before I had finished, my audience were joining in the laugh.

We were called to supper, and over the smoking viands our merriment must be explained, and was renewed. The deacon's eldest son, Robert, had come in. He was older than I, and pretty well informed. We fraternized at once, and kept the table in a roar. Before we rose, I knew I

had made my standing sure in at least one house, and that, I shrewdly suspected, the most influential one in the parish.

Much earlier than my town-life had accustomed me to retire, I was shown up the broad stairs to a large low chamber above. Here was another uncarpeted floor, shining with cleanliness and yellow paint, a tent bedstead, round which hung white drapery with knotted fringe, and beneath the patchwork quilt of "rising sun" pattern, a mountain of feather-bed; white curtains, a little white toilet under the mirror, with its carved frame adorned with plummy asparagus and two glittering peacock's feathers; a chest of drawers reaching to the ceiling, and six painted chairs ranged formally against the wall. It was chilly, and a certain dreariness, that often presides over country "best rooms," pervaded the place. However, I would not think of it. Having read a brief chapter in my mother's Bible, which had always lain by my pillow since I went to college, I hastily undressed, and climbed up to the towering bed; made one fearful plunge, and sank to unknown depths of billowy softness.

It was long before I slept, oppressed alike by thought, and by a feeling of suffocation, as that mass of feathers closed about me. Still, I would not yield—I was determined to be brave, and I had the comfort of an approving conscience. I listened to the howling of the storm, thought of home, and of the untried future. At last, after what seemed hours of tossing wakefulness, I fell asleep.

I was aroused from the realm of dreams by the touch of a heavy hand, and the sound of a loud, but pleasant voice. I looked up. The sun shone brightly through the snowy curtains, the room looked cheerful in its quaint simplicity and cleanliness. Robert Lawrence stood by my bedside, a jovial giant of twenty, and "guessed I had overslept myself, for the chores were all done, and the breakfast was getting cold."

In five minutes I was greeting the bright morning faces round the plentifully spread breakfast-table, cheerful and elate. All my forebodings had fled before the brightness of the new day. I felt strong enough for all it held in store for me.

After breakfast I followed Robert to the spacious barns and sheds that surrounded the farm-yard. Here were evidences of thrift and care, and wealth in flocks and herds.

"The old man says, 'The merciful man is merciful to his beast,'" said Robert. "Father lodges his cattle better than his children."

I glanced at the grim, almost ruinous house, and thought he was right.

"That old stern jail," continued Robert, "was built by the first Lawrence who came up the river to settle here. He was a 'Pilgrim father,' they say, but he liked this country better than Plymouth Rock, though there was nothing but woods here in them days—woods and Indians. He was the parson. His wife and the other women partly walked and partly rode the milch-cows all the way from the river. I'd like to have seen

them coming through the woods. The old house was part dwelling, part fort, where all the folks hurried together when the Indians came, first sneaking, and then whooping round. It's awful old, and father says he don't mean to live in it more'n another year. He's going to build a frame house adjoinin', next summer."

I looked with more interest at the quaint old mansion, with its yard, thick gray walls, and small windows, as this story was told me. The centuries had done their work upon it truly, and it was fast yielding to the invisible corroding fingers. It was a landmark of the ages, a relic of a wonderful past, which held in its embrace a faith, an energy, an enthusiasm, such as the world will hardly witness again.

But now my thoughts would cling to the present. My own cares claimed precedence. I questioned Robert about the district and the school, and learned that affairs were almost wholly under the direction of Deacon Lawrence. That the school was small in numbers, but contained some unruly elements—big boys who felt it beneath their dignity to obey, and girls who preferred rude fun to study, and had each her chosen champion in the school.

"I reckon you'll have a pretty hard time on't," said Robert, compassionately. "You don't look stout enough to lick some of them fellows, and if you don't lick 'em, they'll turn you out as sure's your name's Gurdon. But I'll help you all I can."

I confess I quailed a little at this information, but I answered pleasantly :

"It's early days yet to talk about 'licking,' and what I'm strong enough for. Perhaps I shall not have occasion to test my strength. But are you to be one of my pupils, Robert?"

"Oh, yes ; and father said, as you was college larnt, perhaps you'd teach me Latin, and some of them things, evenings. I expect to go to college myself when I'm out of my time."

I did not quite understand this, but I readily promised. As it was now time to prepare for school, I returned to the house to unpack my trunk and take from it such articles as were for use at the school-house.

"Keep a stiff upper lip with them boys, Mr. Gurdon," said the deacon, as I came down. "It don't take them long to find out what a teacher's made on. Jest let 'em know that you're master at the set-out, and I don't *think* you'll have any trouble. But if you *do*, I'll stand by you, as long as you're right."

I thanked the good man, but his words gave me food for thought. Already had I been twice warned, and twice had I received offers of assistance. Would it be needed? Did they already distrust my ability to manage this little country-school?

I was not over-confident, but I thought that I should not yield to brute force. I did not mean to punish by the rod. I felt sure that other means could be adapted to insure discipline, order, and attention. I would make

the trial, at all events, hoping to succeed. If I failed, the other alternative could be adopted as the last resort. But I did not intend to fail, and I did not intend that my hand should be instrumental in degrading a fellow-creature by corporal punishment. Such were my reflections as I walked with Robert toward the school-house.

The ground was very muddy after the late storm, and I saw groups of children of all sizes picking their way, by field and road, all in the same direction. Arrived at the old brown building, I saw a considerable crowd of children and young people of various ages gathered about the door. At our approach all dispersed, and I entered the building, amidst perfect stillness, and saw, ranged along the seats on three sides, all whom I had just before seen about the door.

I walked up to the desk, amidst the breathless silence, and glanced around.

Thirty pairs of round, wide-opened eyes, expressing curiosity, were upon me. Not a lash moved, not a finger stirred. The most riotous reception would have embarrassed me less. I wished, but hardly knew how, to break this stillness. Robert came to my assistance.

"Children," said he, "this is the new schoolmaster, Mr. Gurdon. I expect you've made up your minds to 'tend to your books, and obey him ; but if you don't, father told me to tell you 'he'd know the reason why,' and so shall I."

He was silent, but looked rather significantly upon a pair of brawny arms and stout fists. As if touched by a spring, every one rose. The girls courtesied, the boys bowed awkwardly, and then, as simultaneously as they had risen, they all sat down again. Another silence ensued. I laid aside my overcoat, and deposited books and writing materials upon the unpainted desk. Then I said, addressing the school :

"We have come together, children, I to teach, you to learn. In order that we both perform these duties well, there are others which must also be attended to. I shall feel an interest in your welfare and improvement, and devote my time and thoughts to you, earnestly and fully, seeking the best ways of improving you. In order that I may succeed, I shall expect you to be quiet, orderly, and studious, always endeavoring to profit, both by what you learn from your books, and by my instruction. I shall expect you to assemble regularly, to obey every signal made by me, and to be courteous to each other and to your teacher. I will commence now with the eldest, and each may bring his books to the desk, and give me an account of his present scholarship, and what his expectations are for the winter."

As I concluded, the thirty pairs of eyes intermitted their steady stare. Glances were exchanged, a titter ran round the benches, and a loutish fellow, considerably larger than myself, came forward with two or three tattered books in his hand. As I sat in my chair beside the desk, he stood gazing down upon me with half-savage insolence.

The name of this young giant was James Lord. His books were a worn English Reader, a spelling-book with one cover gone, and a Daboll's Arithmetic in nearly the same condition. "He was eighteen years old," he said, "worked on farms, where he was hired, in the summer, and sometimes went to school in the winter. Calculated to read and spell, and mebbly write some, and s'posed he'd orter larn how to add and multiply, 'cause he got cheated in his wages last summer."

There were two or three other "big boys," with the same aspirations. The younger boys had spelling-books and "Easy Lessons" for reading. Robert Lawrence had grammar and algebra in addition to his arithmetic, and there were a few simple text-books on geography on the boys' side of the house.

The girls' ideas of tuition were not much more exalted. Some brought the New Testament to read from, but the English Reader and Easy Lessons were the standard reading-books. Almost every girl, advanced beyond simplest reading, had "Peter Parley." There was not a map, chart, or blackboard upon the wall, nor an article of apparatus belonging to the building, if we except a huge ruler of walnut, which, to my eye, seemed better adapted for use as a bludgeon.

With the aid of these unpromising appliances I was expected to continue, in Greenvale, the process of educating its unsophisticated youth. Every face bore a complaisant and satisfied expression, as the books were exhibited. In this case "ignorance was bliss," undoubtedly, and they reveled in it.

I soon saw what the day's exercises must be: a reading class of big boys and girls, in the English Reader; another of smaller boys and girls, in Easy Lessons. I did not approve of the Scriptures for this purpose, but meant to read them stately and reverently myself to the assembled school.

Then there were two or three classes in spelling, and some little children stumbling through the alphabet and words in one or two syllables; and a few in grammar, geography, and arithmetic. These I found it difficult to class, for scarcely two were of the same advancement, and all insisted on proceeding independently from his or her own last lesson at the school of my predecessor. I trusted, however, to another day to bring order out of this chaos, hoping to introduce new text-books and organize new classes.

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MEERSCHAUM is made on a large scale by saturating carbonate of magnesia in silicate of soda or soluble glass—care in selecting a good quality of magnesia and silicate being the only requisite for success. The profits are immense. A pipe made of the "foam of the sea," as smokers verily believe, costs for material about five cents, leaving the balance for labor.

## FRANCIS WAYLAND, D. D., LL. D.

**I**N the death of this eminent scholar, the cause of education has suffered almost irreparable loss. For thirty years at the head of one of our oldest universities, he exerted, perhaps, as powerful an influence in molding the character of the young and in promoting the interests of education throughout the country, as any man in the United States.

FRANCIS WAYLAND was born in the city of New York, March 11, 1796, of English parents. His father, a Baptist clergyman of considerable ability, was settled as a pastor, first in New York city, afterwards at Poughkeepsie and Saratoga Springs. The family removed to Poughkeepsie, where Francis was placed at the academy, and pursued his classical studies under the late Daniel H. Barnes. In 1813, when only seventeen years old, he graduated with honor at Union College, and showed, even at that early age, a marked predilection for metaphysical and economic studies. Immediately after graduating, he entered the office of Dr. Eli Burritt, of Troy; and, after three years of medical study, was licensed to practice his profession. During his medical course, however, he felt called upon to consecrate his life to the Christian ministry. He spent a year in the seminary at Andover, and in 1817 was induced to accept a tutorship in Union College. He continued his theological studies, and mingled with them the study of several branches of literature and science. He remained here four years, taught in nearly every department of college instruction, and began that diversified culture which distinguished him in after-life.

In August, 1821, he was ordained, and settled as the pastor of the First Baptist Church in Boston, and resigned his position in 1826, to accept the professorship of mathematics and natural philosophy in Union College.

Soon after he had entered upon his duties here, he was elected president of Brown University, and was inaugurated February, 1827. The circumstances in which he found the college were by no means favorable. It was scantily endowed, had little apparatus, and a small library. The want of discipline was so great, that the last two or three years of his predecessor's term of service were rendered memorable by the idleness, dissipation, and recklessness of many of the students. Till near the close of his administration, there was but one college edifice, which contained the chapel, recitation rooms, and dormitories; and the number of students being large, many of them boarded in the city, and only came to the college to recite, and were, therefore, not under the control of the college officers.

Such were some of the circumstances under which President Wayland commenced his official duties at Brown University. He soon reduced the affairs to order; and Brown University became remarkable for the exemplary behavior of its students and its high standard of instruction. "Its departments of instruction," it is said, "were but imperfectly organized;

and, in addition to his own proper work, he taught whatever there was no one else to teach. For several years he held the reins of discipline entirely in his own hands, and, both by day and by night, watched over the students with truly parental care. He did not care especially to make the college popular, as it is called ; but he labored most earnestly to render it a school of thorough discipline and of sound education."

The result of such assiduous labors and a management so skillful was most happy. The professors were roused to new exertions and more thorough instruction ; the chair of moral and mental philosophy and political science, in which hitherto the works of Paley had been the only text-books, without even a *caveat* at their errors, became thenceforth the glory of the university ; and his lectures and discussions on these subjects, followed in due time by his excellent text-books, not only attracted students to the university, but also exerted a powerful influence on their subsequent career. The library rose to a respectable rank, and a permanent endowment of \$25,000 was secured for it. Its increasing size required ampler accommodations ; and Manning Hall, with its fine library and chapel-rooms, was erected. The new president's house and Rhode Island Hall were erected ; and, on Dr. Wayland's earnest appeals, the endowment of the university was considerably increased.

Yet, with all these evidences of success, Dr.\* Wayland's ideal of a university was not reached. The number of students did not increase, but actually diminished, and the annual expenses had become greater than the annual receipts. He investigated with great care the existing system of collegiate instruction in the United States ; and, becoming satisfied that a radical change in some of its features was demanded, gave expression to his views in a little volume published in 1842, entitled, "Thoughts on the Present Collegiate System of the United States." The fundamental idea of this work was, that borrowing our system of collegiate education from that of Great Britain, and changing for the worse some of its best features, we had provided only the kind of education demanded by those who were intending to enter one of the learned professions, thus almost excluding the commercial, mechanical, and agricultural classes, which had done most for the organization and endowment of colleges ; and that to offer to these classes the advantages of such an education as would be best adapted to their wants, the study of the classics should be made optional to those desiring an education for other than professional purposes, and that those who chose to take only a practical course should be allowed college honors expressive of their attainments.

But the corporation was averse to any change, and for some years matters remained *in statu quo*. In 1849, despairing of any decided improvement while the existing system was retained, Dr. Wayland resigned

\* He received the degree of D. D. from Union College in 1827, and from Harvard University in 1829. The latter institution conferred on him the degree of LL. D. in 1852.



the presidency. The corporation, unwilling to release him, asked if he could not be prevailed on to remain in office. In reply, he stated freely the reasons of his resignation, and suggested such changes as he believed essential for the largest usefulness of the university. The board thereupon appointed a committee, of which the president was chairman, to propose any changes which might be thought needful in the system of education in the university. The report of this committee, which embodied and developed with greater fullness, though with some modifications, the views first set forth in the little work already named, was presented to the corporation in March, 1850. It proposed the organization of fifteen courses of instruction, varying in length from one term to two years. The selection of courses should be optional with the student. No student was to be admitted as a candidate for a degree, unless he had honorably sustained his examination in such studies as might be ordained by the corporation, but there was no obligation to proceed to a degree.

This system was, on the whole, a great advance in collegiate education. Nevertheless, it was not sufficiently radical. The college degree was still controlled by the corporation, and was only bestowed upon the proficient in the courses which most nearly corresponded to the old college course; and thus one inducement to a high degree of proficiency in those studies best adapted to the needs of the non-professional classes was taken away. But the experiment was tried, and proved reasonably successful. An endowment fund of \$125,000 was raised by subscription in four months, and the university commenced the year 1850-1 under the new system. During the second term of that year the number of students increased to 195, and from that time to the date of Dr. Wayland's resignation the average was 249.

On the 21st of August, 1855, his resignation was again sent to the corporation; this time not from any discouragement in regard to the condition of the university, for it was enjoying a higher degree of prosperity than at any former period, but from the state of his health. It was accepted with regret, and only from the conviction that it was indispensable to the preservation of his life.

During the whole of this period of almost thirty years he had toiled as few scholars have been able to do. Seeking and obtaining physical vigor by the cultivation of a large garden, he devoted the best hours of every day to close and assiduous intellectual labor. His wonderful activity in his duties as the head of the university were but a part of his labors. He was accustomed for many years to preach to the students every Sabbath; and his sermons, though not marked by the graces of oratory in their delivery, were replete with sound and vigorous thought. For two or three years he preached with great acceptance in the First Baptist Church in Providence.

But his great work, so far as his relations to education were concerned, were his text-books. For eight years after he entered upon the presidency,

he taught Moral Philosophy by lectures and discussions. Having, by this long course of study, settled fully the great principles of the science, he gave his "Elements of Moral Science" to the public in 1835, and for thirty years it has continued to be a standard work. The last labor of its lamented author was the revision of the final proofs of a new edition, in which, without modifying any of the postulates he had laid down thirty years before, he had changed and added many illustrations, and made the work more worthy of the welcome it has received in this country and in Europe.

In 1837 his "Elements of Political Economy" was published, and though meeting with less universal success than his preceding work, as was to be expected from the diversity of views on the subject, and its connection with partisan warfare, it has enjoyed a high degree of popularity. It is marked by the same clearness and precision of thought characteristic of his Moral Science. His "Elements of Intellectual Philosophy," though its substance had been given to many successive classes in the lecture-room, was not published till 1854. Here he was treading upon difficult ground, and, amid conflicting systems, could hardly hope to satisfy all. His aim was to give a clear and impartial as well as comprehensive view of the Elements of Metaphysics, and he was remarkably successful. Of his other works, which are numerous and indicate the versatility as well as the high order of his intellectual powers, this is not the place to speak, as they were not devoted to educational topics.

But his labors in the cause of education were not confined to his own university, they were coextensive with the limits of the world. In his own State, the efforts for educational reform in the public schools found in him a zealous and efficient leader. In the founding of colleges and theological seminaries, in the promotion of a higher and more truly liberal education among clergymen, and in the establishment of training-schools in the mission stations in foreign lands, he was always an efficient helper.

The affection and esteem in which he was held by the people of the gallant little State of which for thirty-eight years he had been a resident, were high evidence of his moral worth. Of all her citizens, there was none whom Rhode Island more delighted to honor, none who would have been more heartily welcome to any gifts she had to bestow. More than once he was urged to allow himself to be nominated for United States Senator; and had he consented he would have been elected by acclamation. Such honors as he would accept, the State heaped upon him. He was the chosen counselor in all her educational matters; director and president, if he would serve, in her hospitals, asylums for the insane, and her reformatories; an inspector of her prisons, in which he regularly taught a Bible-class of prisoners, and often preached; president of the Society for Aiding the Poor, and an officer in nearly every social charity of the city, and the counselor and friend of every one who went to him in perplexity and anxiety.

His death was comparatively sudden and unexpected. He had overtasked himself in the final revision of his "Elements of Moral Science," while suffering from a heavy cold: on the 26th of September, 1865, he was smitten with paralysis, and survived four days, without return of consciousness.

## MARKING AND AVERAGES.

**T**HE prevailing system of marking daily recitations, adopted in all our institutions of learning, though conducive to the highest good, is attended with great labor, and much that is useless. Under the college and public-school system of this country it is the only method by which trustees, committees, and parents can know the real and comparative standard of the scholar. By it the spirit of honorable emulation can alone be secured, and it is the only true standard of promotion in the class, or to higher classes and schools.

Having governed a school of one hundred pupils for some time by this instrumentality alone, I have sought to make it as thorough as possible, and at the same time to rid myself of all unnecessary work. I pass over the many methods of recording the value of the daily recitation, for in this the teacher seldom finds difficulty. There are scores of pupils who will rule his book, date it, record the names of the classes, and be glad of the opportunity. It is easy to sit in the presence of his class, and in the book thus prepared, record the pupil's mark as he recites.

But the labor is at the end of the month or term, when he is compelled to make out his summary for the inspection of the committee or the parents. Beginning with the reading-class, he must add a column of twenty numbers, more or less, and divide each sum by the whole number of recitations. Thus class after class must go through the same operation. The term closes on Wednesday, and he must have his report ready to read on Friday afternoon. He wishes to be faithful, for he who seeks to adopt this marking system, and is not as true as a banker, secures the contempt of his pupils, and fails. He must consequently spend sleepless nights over this averaging. This leaves him weary for the beginning of the next month, when he most needs his concentrated energy, to give his pupils a first-rate start.

### READING.

| Oct.    | 1 | 2 | 3 | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | Average |
|---------|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---------|
| J. Roe. | 7 | 9 | 6 | 8  | 7  | α  | 9  | 8  | 6  | 7  | 8  | 8  | α  | 5  | 9  | 8  | 7  | ×  | 9  | α  |    |    |    |    |    |    | 6.55    |
| No. 2.  | 8 | 4 | 8 | 10 | 13 | 23 | 24 | 26 | 20 | 23 | 25 | 27 | 47 | 52 | 53 | 55 | 58 | —  | 59 | 69 |    |    |    |    |    |    | 6.55    |

By examining the above table, every teacher will recognize a familiar

face. There is J. Roe's account with the reading-class for the month of October.

The month closes, and J. Roe retires to the playground. Pedagogue's work is not yet done. He only dismisses the aforesaid to resume his task thus : seven and nine are sixteen, and six are twenty-two, and eight are thirty, and seven are thirty-seven, etc., finding the sum of all the figures to be one hundred and thirty-one, which divided by twenty, gives the average six and fifty-five one-hundredths. In a school of thirty classes, and more than thirty pupils in each class, there are nine hundred of these difficult problems, a task which can not be performed in a shorter time than seven or eight hours. After all this, these averages must be recorded in a journal and on the reports. Let us try and save the above eight hours. Look now at J. Roe's account, No. 2. The maximum of merit, as before, is ten ; the minimum is zero (0). If he gets ten for twenty days, they will amount to two hundred. But the first day he gets three off ; mark it down. The next day he is to get nine ; mark one more off and make it four. The next day he is to get six ; and it is just as easy to take four more off, and write eight, as to put down six. So we mark for the month. On the eighth day he is absent, and gets 0, therefore we count the whole ten off. Likewise we count ten off for the seventeenth and twenty-sixth. At the end of the month we find his offs are sixty-nine. The half of sixty-nine, at a glance, is thirty-four and five-tenths, which, subtracted from one hundred, gives six, five, five, or six and fifty-five hundredths by reducing the hundred to ten, the maximum of merit. Or thus we arrive at the same conclusion. Sixty-nine from two hundred gives one hundred and thirty-one as before, which, divided by twenty, gives six and fifty-five hundredths. This works equally well for any factor or multiple of the maximum. If now there were eight recitations a month, subtract the offs in the last column from eighty, and divide by eight, and so for any other number.

Another plan of averaging is to add the real marks, from day to day, and divide the last number by the number of recitations. The objection to this is, that in every case the numbers would be very high, at last containing three figures. In the case of perfection, no mark need be made at all, if we count the offs ; while, if we add the real mark, it would after the tenth day occupy three figures each time. The offs need never occupy more than two figures, for in case of absences the ciphers can be marked instead of *a* for absences, and added on at the end of the month by glancing from the name to the right. And if a pupil misses a lesson every day, or get below five, he should be suspended from the school. If, now, J. Roe come excused for his absence, he may be allowed during the month to make up the lesson before he recites with the class, and he may be settled with in the column of the last day of his absence.

There may be queries suggested by those who read this. The writer will be happy to answer them in future numbers of the MONTHLY.

# AMERICAN EDUCATIONAL MONTHLY.

FEBRUARY, 1866.

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## THE NEW EDUCATIONAL CAMPAIGN.

THE departments are being well organized and officered. The commissariat was never before so rich in material for illustration, both graphic and pictorial. The parade drills of teachers' institutes evince everywhere the most praiseworthy discipline; those grand reviews, the Conventions, are the pride of the army, and the delight of all spectators; and that signal-corps, the educational press, is repeating all along the lines:

"We'll flag by day, and fire by night,  
To lead the way, and guide the fight."

All right—all sure—all onward! only let not the rank and file become demoralized. "Heroism is uncompromised duty." It is the hardest thing in life to be faithful in little things, and in a low place. But upon just such faithfulness depends the issue of the war against ignorance, stupidity, and superstition. It is not enough to show our colors, and handle our arms, and polish our equipments. *We must fight!*

Not long since, the highest arithmetic class in a fashionable school was assigned to a new teacher. The class was beginning Evolution. A patient explanation by the teacher was rewarded by the languid assertion, "I don't understand it at all." This encouraging remark was repeated day after day, and not by one only, till the teacher determined, considering what was the subject in hand, to go to the *root* of the matter, and discover where and what was the *radical* defect. She said: "Young ladies, I have a square room. I do not know its size; but I am told that I must get nine yards of carpeting, a yard wide, for it. What must be the length of the room?" The young ladies used their slates and pencils, turned the subject over in their minds, and one after another raised their hands. Six answers were given in the following order, by different members of the class: "Three feet; three yards; two and a quarter yards; four and a half yards; nine yards; and eighty-one yards." Those young ladies live in carpeted houses, and somebody has to pay their bills.

Great is arithmetic, and greater is its profit! In A. T. Stewart's retail house, there is a small counter, where young boys sell common materials for dress linings, etc. The other day, one of these boys was measuring and marking remnants of silesia and hollands, when his next neighbor exclaimed, putting his finger on a label: " $\frac{1}{8}$ ." "What do you mean? No woman will know what that is." Presently, a lady appeared, and spying the disputed fraction, asked hesitatingly: "That is nearly a yard, isn't it?" This lady's question was a solitary fact. The boy's statement was the result of an inductive process, having for its basis a class of facts.

How is it at the South? How much studying has been done there during the last five years? The old systems of instruction in boarding-schools and by family governess have been suspended, and in many sections it will not be easy to supply the means for restoring them. Now is the time to establish a school in every neighborhood. The field for this educational campaign widens in every direction, North as well as South—East as well as West. The rubbish of prejudice must be cleared away. New systems must be organized; new schools must be established, and improvements on old modes of instruction must be devised.

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#### USE THE BLACKBOARD.

**B**LACKBOARDS are fashionable. Every one praises them, and every school has them; but how often do they not serve chiefly to darken the walls, to cast a gloom upon the school, instead of light upon the understanding of the scholars. No teacher now dares question their utility; but how many teachers prove their utility by daily use? To how many are they a constant necessity, not an occasional convenience? What a contrast there is between the master ensconced behind an open book, prosing over the words of another, and the live teacher, full of his subject, relying upon his own resources, and rousing his class by the power of blackboard illustration! With the one is dull monotony; with the other, the earnest face—the skillful hand—the hasty diagram in isometrical perspective—the suggestive outline which the mind must fill up—the witty invention which leaves no grade of ability beyond its reach.

Every teacher ought to be compelled to teach something without a textbook, for his own sake—for the sake of his own habits of instruction. Nothing else will keep him from becoming a passive hearer of recitations—the very opposite of the earnest teacher.

## SCRATCHES AND DAUBS.

**K**EEP the first daub and the first scratch from these walls, and they will always be unblemished!" So said a teacher when his pupils assembled in a new school-room. They seemed to think that some mysterious principle had been enunciated; and though we were unable to perceive wonderful wisdom in the assertion, being unable to imagine how the second blemish could appear before the first, yet we forgave the flatness of the truism in consideration of the shrewdness that prompted it. For the moral influences resulting from the appearance of the school-room are usually not fully estimated. The truth is, that all things by which we are surrounded have a definite, unalterable character, a capability of developing those feelings of the human heart which in reality are forming and exercising our tastes. There are no objects in nature or in art by which we are not thus influenced. The walls of our sitting-rooms, the curtains at our windows, the trees in our door-yards, the snow upon our pavements, all these affect, ay, form our tastes and predilections, as constantly, as inevitably as do books, papers, and paintings. And we are also incessantly exercising our taste with reference to these various objects. We are always making comparisons, observing contrasts, deploring defects, or contemplating the pleasing features of all objects by which we are surrounded. No object is so vast, no object so insignificant as to be unable thus to influence us. The household goods which promote our comfort, the wares of trade and commerce that administer to our luxury or gratify our pride, the distant line of hills, the neighboring street, the faces of familiar friends, or the countenances of those whom we meet once never to see again, all these are constantly forming and exercising, and by exercising are constantly fixing our partialities and antipathies.

These facts—which are almost as obvious as the truism we cited—become important when we consider how peculiarly they apply to the impressionable minds of children. That was sound doctrine which Professor North inculcated at the last meeting of the New York State Teachers' Association: "The moral and æsthetic influences of a neat and cheerful school-house are well worth securing. Ideas are like chameleons: they imbibe and retain the color of the objects they are associated with. In some school-houses, learning is a dingy, musty, loathsome commodity: Grammar suggests headache, drowsiness, and tortured spines; Arithmetic is a counting of long dreary hours of bondage to a hated task; and Geography recalls a low ceiling, indecent with charcoal scrawls. In other

school-rooms, like those which adorn many of our cities, knowledge is radiant with delightful hues—'a thing of beauty and a joy forever.' When the pursuit of learning is connected with pleasant apartments and smiling faces, it is elevated to a delight: it is degraded to a drudgery, with surroundings that create discomfort."

Let teachers consider not only that the "first scratch" on the school-room walls will be followed by scratches *ad libitum*,—the "first daub" by daubs *ad nauseam*,—but that *any* blemish in the school-house or its furniture must tend to vitiate the tastes and mar the moral nature of all beneath its roof.

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#### MAPS WANTED.

AS long ago as the time of Solomon, of the making of many books there was no end; and in these days of Coltons and Lloyds there is no end to the making of maps. Still, our schools and the public are to a great extent unsupplied with these homely but effective teachers, and we fear that the want will long be experienced. One of the religious journals, in its desire for some means of delineating the moral changes in heathen lands, makes some statements respecting the utility of maps, which apply with great force to the necessities engendered by changes rapidly recurring on our own soil. Our country is so rapidly becoming settled—explorations are extending so widely, and new territories and states appear so frequently, that the best maps soon become unreliable. We need, therefore, a good convenient atlas, which can be issued in a new corrected edition every two or three years, at a cost which would enable all to be provided with each revised edition. A quarter of a century has elapsed since the appearance of Morse's Geography, consisting of numerous maps, with letter-press on the following page. This, we are told, gave rise to the present custom of putting the maps and the reading-matter of school geographies into the same volume. "Morse's book was remarkable for its excellence and cheapness. By a process of his own invention, called cerography, he was enabled to make very distinct and legible maps, and yet the whole book was sold for half a dollar." As nothing has been heard concerning the cerographic process for several years, it is inferred that difficulties have arisen in the art, so serious as to forbid its further use. Some similar mode of map-making is now especially needed—some mode which will provide, not for the professional and learned man merely, but for the masses of the people and the students of our schools.



## EDITORIAL CORRESPONDENCE.

GoTHA, January 5, 1866.

*Merchants' Training School — The Great Geographical Publishing House — Dr. Petermann.*

I HAVE taken the time to visit the Merchants' Training School of Gotha, the directors of which, with one of the leading teachers, are warm personal friends of my own. Of this school I can speak in terms of high praise, except of the class principle which underlies it. It is the school of a guild, a class, a caste; and as such it only plays its part in perpetuating the hateful caste spirit which prevails on the Continent, and upon which I took occasion to speak freely in a former letter. The son of a merchant is to be a merchant; whatever be his natural tastes or aptitudes, he goes through the course of preparatory training, and adopts his father's vocation. I need not say what a waste of talent this occasions, when considered in the aggregate; how many men, who would have adorned the calling for which nature intended them, are kept in an employment for which they have no inherent fitness; but any one who thinks of the matter for a single instant will see that, in a country where the world lies open to every one, there is a far greater economy of talent.

In this tradesmen's school of Gotha the method of giving instruction without text-books is in common vogue, as in the school of Halle, about which I wrote you a few months ago. Such studies as geography, history, and the sciences are not prosecuted with the use of text-books; but by means of familiar lectures, the teacher asking questions in each lesson on what was spoken of in the preceding. I should think that this plan had its advantages; but it seems to me altogether better to base the lecture on what has been regularly learned from a book. I should fear that the discipline of education would be lost under the lecturing system; that the pupil, being always a recipient of matter fully prepared, and only needing to be heard and not to be carefully wrought over with labor and patience, would fall into those slothful literary habits which are only too frequently met in this easy-going age.

I do not remember being struck with any thing new in this tradesmen's school

which would be worth repeating. The visits made there were satisfactory; but they left on my own mind the impression that, in what concerns the higher branches of a practical education, this old country of Germany can learn more of the young land across the seas than it can impart.

It can hardly be foreign, to the objects which the AMERICAN EDUCATIONAL MONTHLY is intended to further, if I speak in this letter of the great geographical publishing house in Gotha, the largest of the kind in the world. It was founded, more than half a century ago, by Justus Perthes; and is still known by his name, although he died years ago. The present heads of the house are Messrs. Besser and Müller, men of truly noble character, enterprising, careful, and public-spirited. The director of geographical affairs is Dr. Petermann, who is so well known in England and America as one of the foremost living geographers, that it may interest some of my readers if I speak of his personal appearance. He is about thirty-six or thirty-eight years of age; is short, but neither stout nor spare; has a quick and decided manner, but without a trace of abruptness or brusqueness; he is generally earnest in his way of talking, entering at once into the heart of what he is saying, but yet you leave him always with the impression that he is what we call a very "pleasant" man. Notwithstanding his great reputation and his distinguished attainments, he is as approachable as a child; he does not impress one with any awe-inspiring and overshadowing sense whatever, yet he is invariably dignified. While he maintains in his whole bearing the air of calmness, he yet has an art, almost unintelligible to me, of infusing the greatest enthusiasm into all who come within the circle of his influence. Dr. Petermann has lived a long time in England, and has acquired our difficult language so as to speak it fluently and with great correctness. Not knowing his earlier character, I could not venture to assert that he acquired in England certain qualities which do not seem to be at all German, among which are promptness, executive readiness, and first-rate business efficiency. These qualities are sometimes seen in Germany, but they are exceptional, and al-

ways excite as much astonishment as admiration. But Dr. Petermann unites, in a manner which seems wonderful, all that thoroughness, that patient working up of details, that largeness of view over a whole field, and that power of prolonged labor in a single direction, which are distinctly German, with a facility of execution, a readiness to superintend all kinds of labor at once, and in one word those business faculties which are more often found in England and in America than in Europe.

The two gentlemen at the head of the house are less known to the great world, it may be, but are most estimable, cultivated, philanthropic men. Their treatment of all with whom they have to do is uniformly considerate, and the whole establishment is actuated by a spirit of kindness and confidence, which is kindled by the gentleness and the noble qualities of the heads of the house. Mr. Besser is the son of the Besser who for so long a time was the partner of Frederick Perthes; and those who have read the deeply interesting biography of the latter, know the sterling qualities of the elder Besser. Dr. Petermann told me an incident which illustrates the well-known business character of the house. When Dr. Barth returned from Africa, Mr. William Perthes, then at the head of the business, proposed to publish his voluminous travels. Friends tried to dissuade him, telling him that such a work must result in loss. His answer was, "Though I should lose 1,200 thalers on the book, I shall publish it for the honor of Germany." Such to the present day has been the spirit of this house; and when the cities of Hamburg and Bremen gave two thousand thalers each to the late north pole reconnoitring expedition, the house of Justus Perthes alone gave a thousand.

When I came to this place, I called first upon the gentlemen who are the business heads of the house, told them of my present undertaking in connection with the life and works of Prof. Carl Ritter, and informed them that I had visited Gotha as a great geographical center, thinking that the place would afford advantageous helps in the prosecution of my labors. They at once gave me a table in the library of the institute, allowed me perfect license in the use of the books, charts, and all that was there; and, without my knowledge, secured for me the use of the great ducal library of Gotha, with its 150,000 volumes.

Dr. Petermann, in the same liberal spirit, opened to me the riches of his own private collection. All this manifested a spirit which is only too seldom met in this mercantile, driving, selfish world.

For more than two generations, this geographical institute has been rising to its present position. It has always been managed with skill, and perhaps never more so than at the present time. Thousands upon thousands of dollars have been spent upon the preparation of original maps, and while other publishers have freely copied from them, and made fortunes out of stolen goods, the house of Justus Perthes has gone on its quiet way, crowned with prosperity and honor.

W. L. G.

#### OBJECT-LESSONS.

ELIZABETH, N. J., Jan. 10, 1866.

**M**R. EDITOR—I was particularly pleased with the article entitled "A Few Problems Illustrated, for Pupils." Such "Object-Lessons" should gain converts to the system, and show that there is really some merit in teaching beyond the old way of confining the attention of the pupil to the spelling-book and multiplication-table.

I submit an outline of lessons given in the "Union School," Elizabeth, N. J.

#### THE FINGER-NAILS.

1. Names of the parts of the nail: body, root, lunula, and free border.

2. Description of the parts.

a. The body is the exposed part of the nail.

b. The root is the part covered by the flesh.

c. The lunula is the whitish spot near the root of the nail.

d. The free border is the part not attached to the flesh, which should be kept trimmed and clean.

3. The nails are horny appendages of the flesh, and correspond with the claws, hoofs, and horns of other animals.

4. The nails are thin, flexible, translucent plates, resting on a depressed surface of the dermis, called the matrix.

5. The translucency of the nail permits the redness of the matrix to be seen, which color is due to the numerous blood-vessels.

6. There are fewer blood-vessels under the lunula, which gives rise to the whitish spot.

*Method of Presenting the Subject.*

All the pupils from seven years of age to eighteen were assembled in one room, and divided into three classes or grades; the youngest forming the first class, the intermediate the second, and the oldest the third. The members of the third grade were required to remain attentive observers while the first and second classes were being exercised successively, and to be prepared at the close of the lesson to give a summary of the matter, and to write a detailed account of the whole exercise.

The second and third grades took notes while the youngest class were employed in observing and learning the names of the parts of the nail. This required fifteen minutes, and this class passed from the room.

The little ones were asked to think of as many different kinds of nails as they could. As soon as a child thought of one the hand was raised, and the example called for. This gave some mental exercise, and all were encouraged to ask carpenters and others for information upon the subject. At length a little fellow mentioned finger-nails. Examples in addition were called for, as how many nails on one hand—two, three, etc.

The children were told that they were to have a lesson about the finger-nails. They were asked why the nail did not fall off. The answer, in substance, was given, that a part of it extends under the flesh, when they were told that part was called the *root*. The word being "printed" upon the board, it was spelled several times. They were informed, also, that all the part which they could see was called the *body*. All were requested to look at the body, and see if there was any part that they would like to know the name of. Soon the part not attached to the flesh was observed, and the name *free border* given. The whitish spot at the base of the nail was noticed, and several of the class called upon to draw something of the same shape on the board. Very soon all agreed that it looked as the moon did sometimes. They were told that the moon was often called *luna*, and the whitish spot resembling it in shape was called *lunula*. The names were "printed" upon the board, and the class were exercised in spelling the words, pointing to the parts, and naming them, until they were familiar to the majority of the class. The children were dismissed from the room, after being impressed with

the idea that all neat persons keep the free border nicely trimmed and clean.

The second class were called upon to name the parts, and questioned in such a manner as to bring out the matter marked *a*, *b*, *c*, and *d*, under 2.

The class were allowed to do most of the work. After an idea was gained, assistance was rendered, if necessary, in the use of suitable language. Time and space will not permit us to give the method in detail. The sentences were written and repeated in a conversational style until committed to memory. The following day the class reproduced the lesson from memory upon slates.

In giving these lessons the teacher had a special design: first, to exercise the observing powers; second, to cultivate the power of expression, to strengthen the memory, and incidentally to make spelling, reading, and grammar lessons.

The matter marked 3, 4, 5, 6 was given to the third class, comprising the oldest pupils. Some of the matter was given as information, and some drawn from the pupils by questioning. The reasoning powers were brought into exercise about the redness under the nail, and the whitish part called the *lunula*. This class was required to write a detailed account of the three lessons.

An exercise, to prove successful, should be clearly defined in the teacher's mind before coming to the class. She should know just what ideas she wishes to bring out, and how she expects to develop them, else there will be waste of time and little accomplished. o.

**"THE DISHONESTY OF TEACHERS."**

Boeton, January 6, 1866.

**M**R. EDITOR—It may be true that we, as teachers, are a little too careless about obligations; but I see in this another carelessness more fundamental. Teachers have been systematically defrauded. They do more work for less pay than any other men of equal intelligence; yet, in spite of all this, I do not believe there is a more conscientious, honestly disposed class. That they have tastes beyond their abilities—that they sometimes exceed their income, and are unable to meet their engagements, is rather the fault of community than that of the teacher.

What is to be done? If I receive the son of the expressman as a pupil, at five dollars a month, and he moves a few goods for me twenty rods, at an expense of two hours' time, and charges five dollars for that, who is to blame that I must direct the boy's education a month for what the father can do in two hours? I can not raise the tuition beyond a given point, for although I may be a superior teacher, few people know the difference between a fool and a wise man.

Private schools are jealous of each other's success. They ought to unite in securing a proper remuneration. But here comes in another difficulty, public schools are free, and the directors of them—well, no matter; but in their schools men are prized for heaven only knows what qualifications. I do not mean to deny my brethren eminent virtues and qualifications, but only say, that they secure their situations without much reference to these virtues.

The result is, that between the indifference of parents, and the stupidity of school officials, the poor teacher may be thankful if he is permitted to live.

Yet, I can not leave this subject as though reform were hopeless. I see no reason why the grocers of a large town

should consent so harmoniously in raising the prices of all eatables; why tradesmen of every kind, and manufacturers, should forget their mutual jealousies in their union for an advance of prices, while the band of teachers should be a band only in name, and have every expense doubled and trebled without the power to act for their own interests. But an increase of salaries is not the only thing demanded. I do not even consider it the chief thing. It is vastly more important, that they should outgrow their childish isolation, and, recognizing the dignity of a common aim, should establish some just criterion of excellence; and by elevating their profession, and themselves with it, wield that influence which alone can secure their rights. Rest assured, Mr. Editor, that we, as teachers, shall be ignored, and our rights denied, until we feel enough self-respect to force the importance of our work upon all classes of community. Assured that the development of such a spirit is your real object in the articles on the "Ignorance" and the "Dishonesty" of teachers, and hoping that your readers will not be led to misunderstand your purpose and feelings by the somewhat startling captions prefixed, I add this mite as my contribution.

D. P. L.

## EDUCATIONAL INTELLIGENCE.

**NEW ENGLAND.**—The leading New England Colleges are advancing the standard of qualifications for admission. At the first, or commencement examination of Yale College, a majority of the applicants were rejected. Out of one hundred and nineteen, only fifty-two were admitted. After a rigid examination, one hundred and six were admitted at the opening of the present term. The professional students at present number 192, being classified as follows: in theology, 24; in law, 85; in medicine, 41; in philosophy and the arts 92. There are 490 academical students, viz.: seniors, 97; juniors, 107; sophomores, 180; freshmen, 166; whole number in the college, 682.

The State of Maine has made a grant of \$10,000 to the Westbrook (Universalist) seminary, and \$10,000 has been raised by subscription. Besides this, General Hersey, of Bangor, has agreed to give \$5,000 to it, toward an additional fund of \$10,000, if other friends will give the rest, and nearly all is subscribed.

Vermont is organizing a reform school for boys not exceeding eighteen years of age.

The Vermont Agricultural College is to be incorporated with the Vermont University.

**MINNESOTA.**—The Normal School at Winona is overflowing. Its accommodations are quite too limited. The number of students in attendance is 58, although it has seats for only 54. Sixteen counties are now represented in the school. The annual appropriation is \$5,000, and is perpetual. There are model classes composed of children from 5 to 12 years of age, occupying two rooms, with accommodations for 80 pupils. There are, however, 85 children in attendance. A third grade is about to be established in the basement of a neighboring church. The model classes are self-supporting, the charge for tuition being \$30 per pupil per year; and yet at this seemingly high rate the two departments are crowded. The model classes are taught by teachers

of skill and ability. These teachers are young ladies, and receive a salary each of \$700 per year. Great attention is given in the Normal School to the theory and art of teaching. Model-class exercises, in presence of the Normal School occur daily; and are subject to the close scrutiny and criticism of the members of the training-class. The model classes are made to subserve their true purpose, of *illustrating the best known methods* of instruction.

Provision has been made for three normal schools in Minnesota.

The duties of the State Superintendent are at present confided to the Secretary of State. But it is expected that the Legislature will this winter separate the two offices, and create a full department of public instruction.

**MICHIGAN.**—A new educational monthly, called the *Michigan Teacher*, has been started at Niles; William H. Payne is resident editor, and C. L. Whitney, associate. It bids fair to take high rank among the State educational journals of the country.

The University of Michigan is now the largest university in this country, containing 1,051 students, distributed as follows: medical department, 486; law, 300; literary, 265. Three new assistant professors have been appointed, one in each department. The institution is well endowed, and tuition is free.

Prof. Mayhew is now acting principal of the State Normal School, Prof. Welch having resigned on account of his health.

**VIRGINIA.**—The educational interests of the State, which were most signally stricken down by the war—the whole literary and educational fund, amounting to several millions, having been ingulphed in the downfall of the rebel fortunes—receive the governor's most earnest attention. He especially recommends the endowment and establishment of a polytechnic school, upon the basis of the Virginia Military Institute, which was destroyed by the war. The aim and object of this system of education is to apply the laws of science to the arts, agriculture, and manufactures—a style of education which is most needed by Virginia in her present condition, and best calculated to give speedy development to her great natural wealth.

**LOUISIANA.**—The Washington correspondent of the Chicago Tribune gives the following account of General Banks' plan for educating the freedmen of Louisiana: "The educational system established by General Banks, and committed to a military board of education, seems now to be in excellent hands. The board originally consisted of three persons, one of whom was soon found morally unfit for his position, and dismissed: The others continued in office until August last, but constantly lacked the confidence of all who knew them

intimately, and certainly made a wretched exhibit to their successors, so far as financial administration goes. Nevertheless, an immense work has been done, and its results already apparent are cheap at twice the total cost. Mr. Conway, on receiving control of educational affairs, appointed Captain H. R. Pease general superintendent of schools, and gave him such direct assistance, that a most gratifying improvement is already visible. Just at this point, however, the President again interfered. General Banks authorized the assessment of a special tax for the education of the colored children of Louisiana, whose ancestors for generations, both free and slave, had been heavily taxed for the education of white children,—thinking that the time for a fair turn about had fully come,—and directed the quartermaster to advance such moneys as might be needed, until the tax should be realized. Various delays postponed the collection of the tax, until an indebtedness of some \$300,000 had accumulated in favor of the Government. The process of collection had realized about one-half of this amount, when the reconstructed Louisianians made their will at the executive mansion, and the tax collectors were instantly suspended, leaving the \$150,000 still due the Government unprovided for, and annihilating hundreds of noble schools at a blow."

**CALIFORNIA.**—The State Board of Examiners have finished the investigation of the papers of the applicants applying for State certificates at their late session. This board consists of the State Superintendent, chairman, and four teachers appointed by him. The members of the present board are Prof. Minns, Prof. Swezey, Mr. Marks, Prof. Knowlton, and State Superintendent Swett. The late examination was pursued entirely in writing, and contained fifteen different papers of twenty questions each, making three hundred questions for each applicant. The whole number who applied for certificates was eighty-six, most of them teachers from different parts of the State, including a dozen who applied for city certificates. Of the eighty-six who applied, fourteen withdrew for various reasons. Seventy-two completed the examination. Forty-two received each a certificate according to their accomplishments, leaving thirty-one, who applied, out in the cold; and it is said that from the looks of some of their papers and answers, they should attend school, instead of undertaking to pass themselves off as teachers. State educational diplomas were granted to all whose credits to answers on all the papers amounted to eighty per cent, and who had, in addition, taught three years, one of which had been in this State. The average percentage of the seven teachers who received State diplomas, was eighty-four; the highest was eighty-nine, and the lowest eighty.

## CURRENT PUBLICATIONS.

PROFESSOR BASCOM'S late book,<sup>1</sup> with its very unpretending preface, and its somewhat overwrought introduction, is worthy of deliberate attention; certainly among teachers, if not among learners. Whether its philosophy proves to be exhaustive and ultimate, or whether it is the right book at the right time, or whether, indeed, it shall prove to have been really needed at all, as a text-book, are matters for later and separate inquiry.

Throughout, marks of labored and conscientious care are evident. Nothing has dropped spontaneously or unconsciously in the heat of composition. A law treatise could hardly be more unexceptionable and faultless in its technique. Besides, the professor exhibits a becoming familiarity with theoretical writers on his subject. He deals familiarly and exactly with metaphysical questions, and preserves entire consistency in developing his method and material.

His method, however, seems an unaccountable *inversion*. The first division gives the results of all rhetorical thinking, in a labored synthesis, drawn from what actually stand as the second and third divisions! This may be the order *in fact*, where the mind has worked out the result, but it by no means indicates the order the mind must follow in order to reach that result. Educationally, as it respects the learner, the first and last divisions *should change places*, leaving the pivotal second undisturbed. Practical teachers will generally accept this view, for everybody knows that the practical rhetoric, the definition, analysis, and illustrations of literary forms *must* precede the theoretical and philosophical grounds of persuasion and oratory.

The style, which maintains an imperturbable uniformity throughout, seems particularly unfortunate in its absolute subjection to the pedantry of a college class-room. The painful precision of treatment and morbid conscientiousness of statement, everywhere forbid ease and grace of movement.

The style is, literally, *decorated*, and rattles with academic dryness, like an anatomical preparation. Turn over both mid-

dle chapters of Cousin's "True, Beautiful, and Good," and you shall find how a living, fruitful energy, even among most subtle speculations, clothes its labors in winning and appetizing forms. Why must authors touch such moving themes, as lie among the mainsprings of highest art, with cold, clayey fingers, and pens like gravers?

If the "Philosophy" is to develop stylists, after the manner of the professor, then we say away with it. We do not single out the professor for special pedantry, but we do insist that book-makers for the school and college be brought to understand that a text-book worth a name, must render difficult knowledges solvable, and approach the mind of the pupil on *his own level*.

If a teacher can not reduce the matter of his treatise to the vernacular of common thought and usage, without hazarding the value or dignity of his errand, he had better not add another to the hundreds of text-books, long since dead from pedantry and academic mannerisms. Without doubt a good rhetoric is needed, for we have none equal with the growth and necessity of our days. Theories of style, taste, language, and beauty have changed *toto calo* since Dr. Blair's day, and the whole subject remains yet open and should receive immediate and adequate treatment.

EXCEPTING perhaps Sir Roderick Murchison, there is no living man to whom geology is so deeply indebted as to Sir Charles Lyell. Nearly forty years ago, when scientific men were still fettered by the wild theories prevalent during the preceding century, he published his "Principles of Geology," in which he reduced the chaotic mass of facts then known, to a system, and placed the science on a sure basis. Soon afterward his "Elements" was issued, to supply the demand for a text-book. Although this treated the subject in a profound manner, it became exceedingly popular. Now, after remaining for ten years out of print, it again presents itself, enlarged and improved, to compete with its younger rivals.

An elementary work upon geology should

(1) PHILOSOPHY OF RHETORIC. By Professor JOHN BASCOM. Boston: Crosby & Ainsworth.

(2) ELEMENTS OF GEOLOGY: or the Ancient Changes of the Earth and its Inhabitants, as Illustrated by Geological Monuments. By SIR CHARLES LYTELL, F. R. S. Sixth Edition. New York: D. Appleton & Co. 8vo, pp. 808. \$4.50.

differ exceedingly from the deluge of books now appropriating the name. It is folly to suppose that before one can study a science thoroughly, his mind must be filled with the pointless gossip so abundant in text-books. We study not merely to gain information, but also to discipline the mind. Dry narrations of effects give the student a disjointed skeleton of the subject, and, by converting the study into rote, injure the mind. Mind, like body, must have exercise and nourishing food, or it will be enfeebled. We require, therefore, in an elementary work a careful discussion of causes and effects, so presented that the student must exercise thought in preparing the lesson. Important matters should not be omitted for the sake of subjects which are merely entertaining.

Such a work is Mr. Lyell's "Elements of Geology." It consists of no naked narration; it is not a mere list of disconnected facts. It is a treatise. It gives causes and effects, explaining and investigating their relations; it discusses facts and theories; regarding physical laws as secondary to phenomena, its author generally discards hypotheses as such, and consequently treats the subject in an impartial and thorough manner; so that the student who uses it gains a far from superficial knowledge of the science as a whole. It is what we think a text-book should be, concise, interesting, and comprehensive.

With many theories offered in the work we can not agree. Especially are we dissatisfied with Mr. Lyell's argument respecting the antiquity of man. It is almost entirely based upon the discovery of flint implements in certain caverns and in diluvium at Abbeville, Amiens, and other places, where they are accompanied by bones of extinct mammalia. We concede that, beyond all cavil, the flints are of human origin, and that they do accompany fossils of the post-pliocene period. But mere juxtaposition is no proof of contemporaneity. In Alabama, on the plains of Nebraska, and on the pampas of Buenos Ayres, we find the remains of vast mammalia referred to the post-pliocene period; but with them are also found the bones of vast herds of cattle, which were destroyed but a few years ago. Even the antiquity of the fossil mammalia is doubtful. A few hundred years hence, the bison will be extinct on this continent. A new race may

people the land, and the buffalo skeletons may be referred to an ancient period. We know that the lion has become extinct in Greece during the historical period. With these instances before us, why need we urge great antiquity to such mammalia as became extinct before the historical period, and at a recent geological period?

Again, the diluvium in which many of these flints are found, was regarded as of ancient origin by Buffon and others only because it contained no human relics. Now that such relics are found, and as the formation gives abundant evidence of great disturbance, we are as justified in assigning a modern origin to the formation as if we assigned great antiquity to our race. In his reference to Brixam Cave, Sir Chas. Lyell is unfortunate. Dr. Falconer has denied finding flint implements under the head of a *Rhinoceros Hemistoechus* in that cavern. With this exception, which probably resulted from oversight, the argument is fairly conducted, and, as it gives a clear statement of the author's views, adds considerably to the value of the work. We perceive that Mr. Lyell now inclines strongly toward Mr. Darwin's theory of natural selection.

This work is especially full upon paleontology and description of the various formations, nearly five hundred pages being thus devoted. As it relates particularly to the geological history of Europe, it will prove a necessary companion to Mr. Dana's noble manual, which gives the American history. Among other important additions, we note a description of the *Bosoon Canadensis*, discovered in 1859 by Sir William Logan, in the Laurentian rocks of Canada, and since ascertained to be a Rhizopod. An excellent paper concerning this fossil, supposed to be the oldest created thing, is contained in Silliman's Journal for November last. The chapter on the Stone and Bronze ages is full of marrow, and can not fail to interest archaeologists. The chapters on the Glacial epoch are especially full.

We find many new illustrations, but fail to see the frontispiece referred to by the author. Perhaps the American publishers thought it an unnecessary ornament. The book is well printed, though, like most American books, it is disfigured by numerous typographical errors, which reflect little credit upon proof-readers.

SEASIDE STUDIES<sup>3</sup> is a description of the radiate animals found in Massachusetts Bay. Though thus limited in its range, it is a thorough little work upon the whole class. The sections on embryology are pithy and entertaining. The style is everywhere pleasing; and some portions, such as that upon the "Mode of catching jelly-fishes," are especially fine. The authors have followed Professor Agassiz' method of nomenclature, and have made this subject more interesting than we had thought possible. It would have been simplified, had the derivation and signification of the specific names been given. Possibly the omission was intentional, that the reader might be incited to inquiry; yet it detracts from the convenience of the book, for some who will read it are not acquainted with Latin or Greek. It is a remarkably good specimen of book-making, creditable alike to the authors and publishers. The illustrations, which are very numerous, are taken principally from life, exhibiting the animals in natural positions, and are good. The book is printed upon tinted paper, and is substantially bound. We sincerely hope that Mrs. Agassiz and her son will not stop at this point, but give us like descriptive works upon the other classes of marine animals.

The series of German works so often adverted to in these pages has been augmented by a novel<sup>4</sup> by Paul Heyse, and a small volume<sup>5</sup> which will be of interest to students of the German language. A more important addition is Schiller's tragedy,<sup>6</sup> "Maria Stuart," comprising the original text, with an introduction and notes, for translation into English. History records the names of few persons, who, possessing many amiable qualities and actuated by no malevolent impulses, have wrought more

misery than was effected by the erring and unfortunate queen of Scots. Even at this day, there are conflicting opinions as to her principles and conduct; and the student who would either learn her history or study her character, will find little in Schiller's play by which to approximate truth. For the purpose of adapting her history to his literary requirements, he modifies facts, creates new personages, and to some of his characters attributes principles and actions wholly unwarranted by any chronicles known to historians. Yet with all these features, and with all the palpable neglect of historical background which might have heightened the effect of the play, it is justly regarded as a creation of genius, and holds high rank among the masterpieces of German literature, as a painting of an eminently tragic situation, and of a signal triumph of mind over matter, of the human will over brute force and violence.

A NEW edition of a unique work<sup>7</sup> has appeared, which will be of no little interest to all who rightly estimate the value of music in the school-room. It is a collection of hymns made especially for schools, embracing a wide range of themes and metres, with appropriate scriptural quotations, and a collection of effective standard tunes. In literary merit, poetic excellence, and practical adaptability, it well sustains the high reputation which the author has achieved in educational and classical literature.

"BRIGHT MEMORIES"<sup>8</sup> is the title of a little book, designed to exhibit to the young the graces, virtues, and sufferings of one who had become endeared to numerous friends, and was, through her poetical effusions, becoming known in literary circles. The beauty of the character depicted, and the tenderness with which a sister has here performed her work of duty and affection, will cause feelings of sadness and pleasure to all who read the book.

(3) SEASIDE STUDIES IN NATURAL HISTORY. By ELIZABETH C. AGASSIZ and ALEXANDER AGASSIZ. Marine Animals of Massachusetts Bay. Radiates. Boston: Ticknor & Fields. 8vo, pp. 165. \$3.00.

(4) DIE KINSAMEN. Von PAUL HEYSE. 12mo, pp. 44. 40 cents.

(5) WAS SICH DER WALD ERZEHLET. Ein Märchenbogens von GUSTAV SU PUTTKE. Mit einem Titelbilde von Gustave Doré. 12mo, pp. 64. 50 cents.

(6) MARIA STUART. Ein Trauerspiel von FRIEDRICH VON SCHILLER. Notes, etc., by Dr. Adolphus Bernays. 12mo, pp. 174. 50 cents. Boston: De Vries, Ibarra & Co.

(7) HYMNS FOR SCHOOLS, with appropriate Selections from Scripture, and Tunes suited to the Metres of the Hymns. By CHARLES D. CLEVELAND. New York: Schermerhorn, Bancroft & Co. 18mo, durable cloth, leather back; pp. 270. 75 cents.

(8) BRIGHT MEMORIES. In Memoriam ANELLA HULSE ROBERTS. By Mrs. GEORGIA A. HULSE McLEOD, author of Sunbeams and Shadows, Sea-Drifts, etc. New York: John W. Brown, printer. 12mo, pp. 79.



## SCIENCE AND THE ARTS.

—A German professor has discovered the means, by the aid of chemistry, of recognizing the presence of cotton in linen fabrics. He takes a piece of cloth, about two inches by three-fourths of an inch, and after having unraveled both weft and warp, plunges it into an alcoholic solution of aniline and fuchaine. The superfluous coloring matter is removed by water. If, while still wet, it be placed in a saucer containing ammonia, the cotton fibres will immediately become discolored, while those of linen will preserve a fine red color.

—To aid bees in the formation of their comb, narrow sheets of wax are now imprinted by machinery, so as to exactly represent the dividing wall of comb between the cells.

—Wood shavings are extensively used for the manufacture of paper. To ascertain whether a given kind of paper contains wood, pour a few drops of aniline into a test-tube, add a few drops of diluted sulphuric acid, and apply heat by means of a spirit-lamp. This done, a strip of the paper to be tested is dipped into the liquid, which is a sulphate of aniline, and immediately an orange tint will be perceived, which becomes intense in proportion to the wood contained in the paper.

—M. Javal, a French savant, recently reported a method of curing strabismus, or squinting, by the use of the stereoscope. Though entirely novel, the suggestion commands itself as of high probability, and as belonging to the homeopathic, or *similia similibus*, principle of healing. Few have failed to notice the painful effect upon weak eyes—producing for the time almost an artificial strabismus—of a continuous use of the stereoscope.

—A recent post-mortem examination proved that death had been caused by apoplexy, induced by the presence of a parasite called *cysticercus* in the left ventricle of the brain.

—Amongst the patents lately taken out in France, are the following: A hygienic alphabet, in gingerbread; a method of making head-dresses, caps, and pocket-handkerchiefs in paper; a mechanical fan, opening and shutting instantaneously; a machine for cutting stone by means of a system of points, reproducing minutely the relief required; an apparatus for making deaf people hear; and no fewer than ten patents for stopping railway trains.

—Hail-storms are either regular or irregular. The former return periodically; the others, the most disastrous, make their appearance at long intervals; visit indiscriminately the places most, as well as least, subject to hail, and follow valleys and

water-courses, while they avoid forests. The influence of forests may be attributed to two causes: 1. They are an obstacle to the motion of the masses of air which carry heavy clouds; hence, on the borders of forests, eddies are formed in the atmosphere, and both the air and clouds find an easy issue along those same borders. The consequence is, that the velocity of the aerial masses, and clouds with which they are charged, is checked, and they therefore disburden themselves of their hail before they arrive at the forest. 2. Admitting that electricity exercises some action in the formation of hail, the trees may be considered as conductors, depriving the clouds of their electricity. They would thus cease to be "storm clouds," and no hail could be formed in them.

—A new use for petroleum has been devised. The invention consists of a simple process of forming the debris of dust or coal-mines and yards, with petroleum, into lumps or blocked masses, which ignite readily without use of soft coals or kindlings, last longer, and give out a more intense heat than ordinary anthracite, and cost about one-half as much.

—A French savant says he has discovered a complete substitute for rags in the manufacture of paper. The root of the lucern-plant, he observes, when dried and beaten, shows thousands of very white fibres, which form an excellent paste for paper-makers. The three kinds of lucern—the *medicago media*, the *medicago falcata*, and the *medicago maculata*—produce equally good roots for paper-makers' use. The roots are to be first pressed between two rollers to open them, and, when sufficiently crushed and dried, they are left to soak in running water for fifteen days or three weeks. The pulp, besides the thread for paper, produces salt of soda, and a coloring matter, called by the inventor *luzerine*.

—The Rev. W. Fox, of Brixton, near Brooke, Isle of Wight, has discovered in the vast wealden formation, at the back of the island, a new reptile of the Dinosaurian family. The only parts of the skeleton wanting are the head and neck. The animal was above six feet long, from the shoulder to the rump, and was furnished with a massive tail five feet long. The legs were about four feet in length, terminating in a broad, short foot. Plates of bone from half an inch to four inches in diameter, and about half an inch thick, covered its body, with the exception of its back, which was protected by a great bony shield. Spine-like bones ran along the sides of the body and tail, some of which are fifteen inches long and weigh seven pounds.

## MISCELLANY.

—Mrs. Southworth's method of publication is thus described: "Her plan is to hit the public thrice with one work. It first appears in the *London Journal* under one title, and then in a New York sensation weekly with a second name, and finally as a book, with a third name."

—In New York city there are 15,000 dram-shops, and 800,000 drinkers, each drinking two gills of liquor per day—800,000 barrels a year. This quantity would make a reservoir 900 feet long, 50 feet wide, and 68 feet deep, and could float four large ships in full sail; at sixty dollars per barrel, it amounts to \$18,000,000. Out of 7,000 cases tried before the Court of Special Sessions last year, not more than 94 were sober when arrested. Paupers in the city cost \$4,000,000 a year.

—"How shameful it is that you should fall asleep," said a dull preacher to a drowsy audience, "while that poor idiot," pointing to an idiot who stood staring at him, "is awake and attentive!" "Perhaps," said the fool, "I would have been asleep too, if I had not been an idiot."

—Just as the brain may be removed from a tortoise, and the animal will still live, so, too, without brains, will certain books live. The arts of the publisher and the circulating library keep them in motion. Their life, however, is purely mechanical, and consists in being lifted from shelf to shelf.

—"I think our church will last a good many years yet," said a waggish deacon to his minister; "I see the *sleepers* are very *sound*."

—Swift said that the reason a certain university was a learned place, was, that most persons took some learning there, and few brought any away with them; so it accumulated.

**FORTUNE.**—Fortune may favor fools; but that is a poor reason why a man should make a fool of himself.

—Satire is both foolish and wicked in the school-room, and those teachers who resort to it proclaim their own weakness. Teachers who do not respect the feelings of their pupils cannot expect the pupils to respect theirs.

—In the districts of Young Hian, and of Meisonug Hian, in China, there exists a large number of salt-water wells extending over a space of about six leagues, which are actively explored by the neighboring population. From the mouth of these wells arise columns of inflammable air, so that if a torch be applied to the opening, globes of fire of from twenty to thirty feet high are seen to arise, shining with a brilliant light. The Chinese arch over these sources of gas

with long bamboo tubes, and the gas communicated through these tubes serves to illuminate the machines by which the salt-wells and the places where they are situated are explored.

—It is an important fact, that if a meat-pie is made without a hole in the crust, to let out certain emanations from the meat, colic, vomiting, and other symptoms of slight poisoning will occur.

—A young lady, after having been severely interrogated by an ill-tempered counsel, said she never before fully understood what was meant by *cross-examination*.

—The necessity of putting clauses in their proper places is seen in the subjoined extract from an editor's notice of a poem: "The poem published this week was composed by an esteemed friend, *who has lain in his grave many years for his own amusement*."

—"Can you inform me," said a student to a bookseller, "whether I can find anywhere the biography of Pollock?" "Yes," said the bookseller: "I dare say you'll find it in the *Course of Time*."

—The construction of the English language must appear most formidable to a foreigner. One of them, looking at a picture of a number of vessels, said, "See, what a flock of ships!" He was told that a flock of ships was called a fleet, and that a fleet of sheep was called a flock. And it was added, for his guidance in mastering the intricacies of our language, that "a flock of girls is called a bevy, that a bevy of wolves is called a pack, and a pack of thieves is called a gang, and a gang of angels is called a host, and a host of porpoises is called a shoal, and a shoal of buffaloes is called a herd, and a herd of children is called a troop, and a troop of partridges is called a covey, and a covey of beauties is called a galaxy, and a galaxy of ruffians is called a horde, and a horde of rubbish is called a heap, and a heap of oxen is called a drove, and a drove of blackguards is called a mob, and a mob of whales is called a school, and a school of worshippers is called a congregation, and a congregation of engineers is called a corps, and a corps of robbers is called a band, and a band of locusts is called a swarm, and a swarm of people is called a crowd."

—One of Theodore Hook's friends was an enthusiast on grammar; a badly constructed sentence, or a false quantity, inflicted as much pain on his sense of hearing as a false note in music does on the ear of a musician. Theodore Hook said of this grammarian, "If any thing could cause his ghost to return after death, it would be a grammatical error in the inscription on his tombstone."

## THE FAMILY SEWING MACHINE.

BY JENNIE JUNE.

To understand the value of the Sewing Machine, and the happy changes which it has effected in the social and family relations, one must be familiar with the quiet households scattered throughout the East and West, the North and South, of this great and thriving country.

Everywhere in the interior, domestic assistance of any kind is so difficult to be obtained, that it is scarcely looked for, and every good housewife relies upon her own exertions, not only to keep her house in order, her larder well supplied with the essential luxuries of home-made bread, cake, and plea, but her own, the children's, and frequently her husband's wardrobe furnished with all the useful, if not the ornamental, articles of dress.

This necessity provided an immense amount of work for one pair of hands to perform—the female head of the house, the hard-tasked wife and mother, found not a moment for relaxation. The drudgery of the kitchen was succeeded by that of the work-basket, whose pile of shirts and small garments seemed never to decrease. Not a moment of time could be afforded for the gratification of any simple fancy, even in ornamental needlework, all, to the last moment, and far into Saturday night, was exhausted in the necessities of the plainest work upon little aprons, frocks, and drawers, and the inevitable weekly collection of family mending.

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[*Hall's Journal of Health.*]



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**A**LMIGHTY GOD, we adore and bless Thee as the Author of our being, and the Giver of all our mercies. We acknowledge Thee as God over all, blessed forever more. Thou art worthy to be praised, and loved, and had in reverence of all Thy creatures. Thou art glorious in Thy holiness: fearful in Thy praises: doing wonders. Heaven and earth are full of the majesty of Thy glory.

We praise Thee for what Thou art in Thyself, and for the revelation Thou hast made to us of Thy glorious perfections in the person and work of Thy blessed Son, our Saviour, Jesus Christ.

We thank Thee for that blessed Word in which this revelation is contained. Teach us to love that Word. Help us to understand it. May we make it our guide, and walk in the light of it. Open our eyes, that we may behold wondrous things out of Thy law. May it be sweet to our taste as the honey, and the honey comb. May we esteem it more than our necessary food; and rejoice in Thy Word as one who findeth great spoil.

Especially help us to learn from it the purpose for which Thou hast sent us into the world. May we be fully awakened to the important truth, that the great end for which we were created, is that we may know Thee, and love Thee; may glorify Thee, and enjoy Thy blessed presence forever.

Teach us to know that we never can begin to secure this object of our creation till our hearts are changed by Thy converting grace, and we are made new creatures in Christ Jesus. May we seek *first* the kingdom of God and his righteousness, assured that all needful things will then be added.

Lead us to true repentance, and a living faith in Thee. Help us to consecrate ourselves to Thy service and glory. May the language of our hearts continually be, "Lord, what wilt Thou have us to do?" Make us feel that we are not our own, but are bought with a price, and are bound to glorify Thee with our bodies and our souls, which are Thine. Whatsoever our hands find to do, may we do it with our might.

Be Thou our Guardian and Guide. Help us in all our ways to acknowledge Thee, that Thou mayest direct our steps.

May we look not at the things which are seen and temporal, but at those which are unseen and eternal; and whether we eat, or drink, or whatsoever we do, may we do all to the glory of God.

These things we humbly beg, and whatever else Thou shalt see to be convenient for us, through Jesus Christ, our Lord. Amen.

*Richard Newton*

# OPINIONS OF EDITORS, PASTORS AND TEACHERS IN FAVOR OF THIS WORK.

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A few extracts from notices by those who have seen the plan or proof sheets of the book, as well as from letters received relating to it, may not be out of place here.

One of the **Editors** of the **Chicago Tribune** having seen some of the proof sheets, writes as follows:

"**WORSHIP IN THE SCHOOL-ROOM.**—To show your readers how thoroughly Messrs. SCHERMEHORN, BANCROFT & Co. are taking hold of their mission, and with what enlightened intelligence they are extending its functions, let me state that I looked over the proof sheets of a beautiful forthcoming school volume with the above title, prepared with the greatest care, and by consultation and aid of some of our most distinguished clergymen, and under the authorship of a leading educator,—a School Prayer and Singing Book, to guide and give elevation to the daily devotions of the school room. This will fall cold on the ears and attention of many who are interested in public education, but there are thousands who believe that Christian influences are nowhere more to be coveted than in the school room, and with these the publication of Rev. Mr. Wylie will be adopted with an instant favor that will bless both author and publishers."

The **Principal** of a flourishing New England Seminary, who is well known as the author of some Educational works, writes as follows:

"I will do what I can to bring your book into notice and use, for in so doing I shall subserve the interests of Christian Education."

Another **Minister** writes thus:

"I am much pleased with the plan of your book. With the efforts necessary to introduce your publication into our Schools and Seminaries of learning and elsewhere, I trust, by the blessing of God, your largest expectations will be realized."

The **Principal** of one of the most successful Academies for boys, in Pennsylvania, when contributing a Prayer for the book, closes an accompanying note by saying:

"Wishing you every possible success in your timely undertaking, I beg to be a subscriber, and will order more if required."

From a letter written by a well known **Pastor**, of one of our large city churches, I make the following extract:

"You have my best wishes for success in your present effort, for whatever shall contribute to a more regular, intelligent and devotional reading of God's ever-blessed word must be productive of good."

Another **Clergyman** writes:

"I enclose, according to your request, my contribution to the work you are preparing. Such a work is truly a desideratum, and I trust yours may fully meet the existing necessity."

A specimen page having fallen into the hands of the **Editor** of the **Banner of the Covenant**, the following notice appeared in that paper:

"**REV. W. T. WYLIE**, principal of the Milton Classical Institute in this State, is engaged upon a work of much interest and value to Christian instructors, a specimen of which has been submitted to our inspection. It is a book of Scripture lessons, with appropriate psalms or hymns set to music accompanying each, for the opening service of the school. A leading religious topic is selected, and passages without note or comment are gathered from various parts of Scripture as they bear on the topic, forming a continuous, interesting and instructive lesson. The idea and plan of the work are excellent, the execution of the specimen page was exceedingly handsome and tasteful. We sincerely hope Mr. Wylie will have great success in his undertaking."

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# Worship in the School-Room.

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**Dear Sir,**—I present you specimen pages of the above-named Manual of Devotion, which is now in press. The work has grown out of the wants felt in my own experience of ten years as a teacher. In addition to the combination of Praise, Prayer, and the Study of God's Word, each lesson presents at its commencement a topic which is the key-note of the entire service.

Allow me briefly to call your attention to three things in regard to the book:—**Its Object**; **Its Plan**; and the **Mode of Using it**.

**I.—The Object.** (a) is to secure individual attention and united expression throughout the entire service; (b) to suggest important *doctrines* and duties in such a manner as to arrest the attention and awaken the interest of the young; (c) to familiarize the minds of youth with the teachings of divine truth on all the great questions of life, and with the richest and sweetest treasures of sacred song; (d) to aid in preparing the sons and daughters of our institutions of learning more fervently and effectively to join in the devotions of home and of the great congregation. In one word, its object is to aid in *educating* (both by instruction and by development,) each student, as an accountable religious being, in the performance of his highest duty, and the enjoyment of his greatest happiness.

**II.—The Plan.** (a) In preparing the book, the first step was to form an outline of the great Doctrines and Duties of Religion, as these regard God and Man; giving prominence to such as especially claim the attention of youth, and tend to shape the course of life. (b) Selections of Scripture were then made, enforcing and illustrating the given topic by precept, narrative, &c. These selections were afterwards arranged with a view to make them suggestive of the various bearings of the subject as far as practicable. (c) After that, appropriate psalms and hymns were chosen, keeping constantly in view the combination of strength and beauty, so that the choicest spiritual and poetical productions of our language, in youth might be treasured up for counsel and comfort in after life. (d) The adaptation of music to the hymns was considered a most important and difficult matter: several leading composers were consulted, and the final arrangement and adaptation of the music to the words was placed in the hands of T. J. Cook, of New York, whose name is a guarantee for the judicious execution of the work. (See Musical Introduction in the Book, by Mr. Cook.) (e) In view of the fact that many young teachers might hesitate, unaided, to lead their pupils in prayer, each page of the lesson was placed in the hands of some earnest Christian educator, and after its perusal, a prayer was written by him, adapted especially to that particular lesson. We have thus more than 250 leading minds, of all evangelical churches in our loyal land, participating in the service of prayer, thus securing a variety, freshness and adaptation which could be obtained in no other way.

**III.—The Mode of Use.** (a) While the book is not arranged by any formal division of days, months or times, it furnishes material for more than every school-day in the year. (b) Each pupil should have a copy of *the lessons*, (the book will be bound in two editions, *the lessons without the prayers* for the pupils.) The teacher proceeding in course, or selecting, or calling on a pupil to select, a lesson for the day, all join in singing the psalm or hymn chosen. The teacher will then read the first verse of the Scriptures, one-half the school read the second verse *in concert*, the other half read the third verse in like manner and so around. (c) The teacher, (all bowing on their desks,) leads in prayer, using in whole or in part the form prepared, or directing the service in his own language. A Sabbath lesson might be assigned for study on that day, and at least a portion of it memorized.

Having tried as briefly as possible to explain the Object and Plan of the work, with the Mode of Using it, I would be happy to send you a specimen copy of the complete work (making over 500 pages, with prayers included,) with a view to its introduction into your institution. Should you order a copy for examination, I will enclose a circular with it, proposing *special terms for its introduction*. For a single copy, by mail, postage pre-paid, enclose \$1.85. In case you wish to order several copies by express, enclose \$1.50 for each. The retail price of the book, complete, is \$2.50; the lessons alone retail at \$1.50.

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1

2

ALL people that on earth do dwell,  
Sing to the Lord with cheerful voice;  
Him serve with fear, His praise forth tell,  
Come ye before Him and rejoice.

THEE we adore, eternal Lord!  
We praise Thy name with one accord;  
Thy saints who here Thy goodness see,  
Through all the world do worship Thee.

2 Know that the Lord is God indeed;  
Without our aid He did us make;  
We are His flock, He doth us feed,  
And for His sheep He doth us take.

2 To Thee aloud all angels cry,  
The heavens, and all the powers on high:  
Thee, Holy, holy, holy King,  
Lord God of hosts, they ever sing.

3 Oh, enter, then, His gates with praise;  
Approach with joy His courts unto;  
Praise, laud, and bless His name always,  
For it is seemly so to do.

3 Th' apostles join the glorious throng;  
The prophets swell th' immortal song;  
The martyrs' noble army, raise  
Eternal anthems to Thy praise.

4 For why? the Lord our God is good,  
His mercy is forever sure;  
His truth at all times firmly stood,  
And shall from age to age endure.

4 From day to day, O Lord, do we  
Highly exalt and honor Thee!  
Thy name we worship and adore,  
World without end, for evermore.

Sternhold—Hopkins.

Unknown.

WHAT is man, that thou art mindful of him? and the son of man, that thou visitest him? For thou hast made him a little lower than the angels, and hast crowned him with glory and honor.

2 O LORD, open thou my lips: and my mouth shall show forth thy praise.

3 Evening, and morning, and at noon, will I pray, and cry aloud: and he shall hear my voice.

4 Thus will I bless thee while I live: I will lift up my hands in thy name. My soul shall be satisfied as with marrow and fatness; and my mouth shall praise thee with joyful lips.

5 All the earth shall worship thee, and shall sing unto thee; they shall sing unto thy name.

6 It is a good thing to give thanks unto the LORD, and to sing praises unto thy name, O Most High;

7 To show forth thy loving kindness in the morning, and thy faithfulness every night.

8 O LORD, thou art my God: I will exalt thee, I will praise thy name: for thou hast done wonderful things; thy counsels of old are faithfulness and truth.

9 This people have I formed for myself: they shall show forth my praise.

10 In the LORD shall all the seed of Israel be justified, and shall glory.

11 Therefore the redeemed of the LORD shall

12 Herein is my Father glorified, that ye bear much fruit; so shall ye be my disciples. If ye keep my commandments, ye shall abide in my love; even as I have kept my Father's commandments and abide in his love.

13 Father, I will that they also, whom thou hast given me, be with me where I am; that they may behold my glory which thou hast given me: for thou lovedst me before the foundation of the world.

14 He that overcometh shall inherit all things; and I will be his God, and he shall be my son.

15 And he carried me away in the spirit to a great and high mountain, and showed me that great city, the holy Jerusalem, descending out of heaven. And I saw no temple therein; for the Lord God Almighty and the Lamb are the temple of it.

16 And the city had no need of the sun, neither of the moon, to shine in it: for the glory of God did lighten it, and the Lamb is the light thereof.

17 And the nations of them which are saved shall walk in the light of it: and the kings of the earth do bring their glory and honor into it:

18 And the gates of it shall not be shut at all by day: for there shall be no night there.

19 And they shall bring the glory and the honor of the nations into it.

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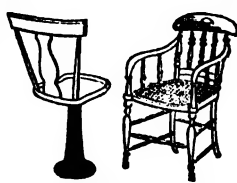
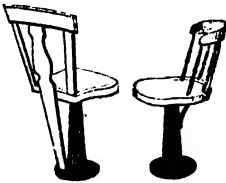
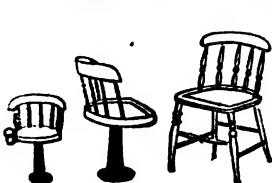
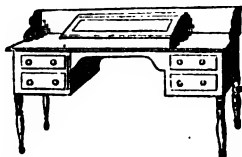
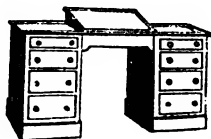
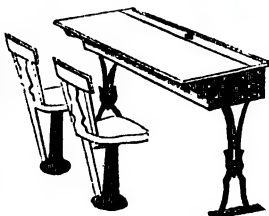
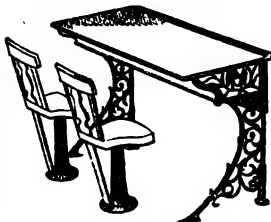
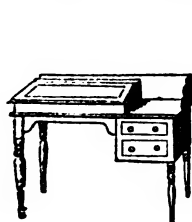
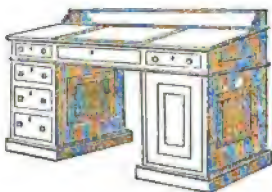
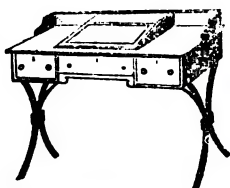
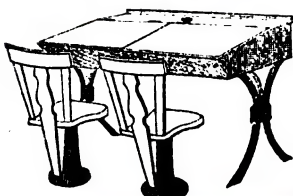
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W. Well, try me and see. But just let me look at the book a minute to see how it begins. [Looks.]

[Enter James, quietly.]

"Early on the morning of the thirteenth of September the—the—Early on the morning of"—[Hesitates, hangs his head and moves his lips as if repeating to himself.]

E. Well ; go on.

W. The—Oh ! I know now ! "The British, under General Montclam—"

E. [Laughing.] Breakfasted on chowder, I suppose.

W. I won't say another word, if you don't stop laughing. It's mean to laugh, when a fellow miscalls a word.

E. Well ; I won't laugh any more, if I can help it. Come, begin again. You'd better try this verse : "General Wolfe, with an army of eight thousand men—"

W. Oh, yes ! I know. "General Wolfe, with an army of eight thousand men, scalded the Heights of Abiram." What are you laughing at ?

E. [Laughing.] Come, now ; that's fine ! Scalded the Heights of Abiram. Where did you—

W. I say it's in my book, now, just so ! See if it isn't !

E. Well, look and see ; s-c-a-l-e-d. What does that spell ?

W. Scaled, of course. Well, I thought I was right. Oh ! Abraham. Any way, there isn't much difference ; and what's the use of being so mighty particular about a word or two. History is a mean thing to learn anyhow.

E. That's a fact, Will. It is a mean thing to learn *anyhow*, but a very pleasant thing to learn right. But let me ask you a few questions. Who commanded the English ?

W. Ha ! aint you smart ? Don't you think you've got me now ? There wasn't any English there !

E. [After a quiet laugh.] Well, then, who did fight there ?

W. Why, the British and the French.

E. Who commanded the French ?

W. General Wolfe.

E. What became of him ?

W. He was killed, wasn't he ? Oh ! I know the lesson now ! He was mortally wounded—and—(drawling and speaking as though the words were one sentence)—"They fly who fly said the dying hero the French said a soldier then I die content said the hero and immediately expired."

E. That's it, exactly ! You do know a thing or two, don't you ? But never mind those old wars and dead heroes. Let's talk about our own war. You read the papers, don't you, Will ?



W. Of course I do! Do you think I'm a spooney, because I missed a word or two in my history lesson?

E. What do you think of General Grant's report?

W. I thought it was a very good thing; didn't you?

E. Yes, very. That account of the battle of Baltimore was splendid, wasn't it?

James [*Stepping forward.*] The battle of—

E. Be quiet, James! Let us alone. I'll go with you directly. [*To William.*] Didn't you read the report of the conduct of the war after Grant took command, and all about the terrible battle at Baltimore, where the Alabama was sunk and the Monitor did such execution?

W. Well—no—not—quite—all—of—it; but it was dreadful, wasn't it?

E. It was that! You remember that splendid charge that the rebels made just as the gunboats came round Cape Hatteras and opened fire on them. They had just crossed the Chickamauga, and—

W. Yes, I remember; but I read it in a hurry, and may have forgotten some parts.

J. Come, Ed., that's too much! There—

E. Keep still, Jim; there's time enough. I'll come out all right. [*To William.*] You see, General Scott came up to the rebels, who had about a million of men strongly posted along Tennessee. The fight lasted three days, you remember, and our troops were being overpowered, when Grant came up with half a million of men, and, dashing into the thickest of the fight, rallied our forces; and, when the monitors came up, drove the rebels across the Chickahominy, and took the most of 'em prisoners, and—

W. Yes, I know; I remember all about it. But, you see, I must go, now. Tom's waiting for me. [*Exit.*]

E. Well; I think you'd better go. [*Calling after him.*] Say! Can't you spend time some rainy Saturday to write a history of the war? You'd make a capital hand; you have such an excellent memory, and—

J. Don't be so hard on the poor fellow, Ed., if he is a fool and won't own it. What possessed you to lie so?

E. I didn't lie. He said he had read Grant's report, and I said he knew so and so, then. He did all the lying.

J. It was laughable, I confess; but was it fair?

E. Well, no; perhaps not. But it was as near the truth as he would have got if he had the report for a lesson. He pretends to know so much that I can't help running him a little sometimes. There goes the first bell! If I don't make up for lost time, Will may give me a hint to mind my own lessons more, and his less.

J. And I too. I came in to study.

## JULIAN GURDON : SCHOOLMASTER.

## CHAPTER IV.

## THE SECOND DAY.

THE close of the first day's exercises found me exhausted, without having encountered opposition or defiance. It was the weariness of my struggle with an imperturbable stupidity, the downfall of my high hopes and boundless aspirations. I had imagined myself the center of a circle of youthful minds, all ardent in the pursuit of knowledge, all with appetites sharpened by a taste at the Pierian spring, and anxious to quaff huge draughts of its life-bestowing waters. I had scarcely been conscious of these hopes till now that they were destroyed, and I stood sorrowful amid their ruins. I wished myself again in the classic shades of Elmtown.

But the atmosphere of that cheerful home, and a night of quiet slumber, removed despondency and restored my equilibrium. I returned with fresh courage to the duties of the second day. I was now better prepared for what I was to encounter, because better informed. I had, however, another lesson to learn, for which I was utterly unprepared. One by one my scholars came in. Few were waiting for me: they had, to-day, no curiosity to gratify.

On the previous day I made out a list of needful books for each pupil, and sent it to the parents, with a request that they might be procured as soon as possible. This morning nearly every scholar brought a message to the effect that his father or mother thought it unnecessary to purchase more books. Those he had, had always been deemed sufficient by other teachers, and his "schoolin'" was going to cost enough without throwing away money on a parcel of new books.

I was dismayed. Making bricks without straw was an easy task, I thought, compared with mine. My sole appliances and apparatus consisted of these tattered volumes, in their depressing variety, a huge walnut ruler, a leaden inkstand, and a thick willow withe, which substituted the conventional "birch." I had not a chart, nor even a blackboard. I concealed my dismay, however, and returning some trifling answer to each message, I resolved to consult Deacon Lawrence before proceeding further.

I commenced the exercises of the school by reading a brief portion of the New Testament, and then requesting the children to repeat with me the Lord's Prayer. I had learned that it had been customary in the school to open the exercises with prayer, and as I had no gift for extemporaneous petition I preferred to use the divinely appointed words. My request was followed by an exchange of glances, and an audible "snicker"

running round the whole school-room. Only one pupil followed my example and knelt, and but five or six voices followed my utterance. I was wise enough to make no allusion to this when I rose, but I determined to do so on some future occasion, and to urge compliance with my request. I now observed, for the first time, the scholar who had knelt with me. This was her first day, and my duty was to examine the books she had brought, and to assign her lessons.

She was a fair, delicate child, of perhaps twelve years of age. Her features, with a child's prettiness, were refined in expression. Her hair was smoothly brushed, and covered by a net, such as was then worn by little girls. Her dress was such as was worn by my sister Emma's pupils, of Elmtown. She was evidently a new-comer, transplanted from some city or large town, and in utter contrast with the little girls by whom she was surrounded. She differed from them in dress and mien no more than in quality. Her modesty was unlike their rustic shyness. Her delicate, but not sickly fairness, unlike their ruddy health. Not prettier than half a dozen others, she was graceful where they were hoydenish, low-voiced where they were boisterous, sprightly where they were rude. And yet it was a difference to be felt more than seen. I saw at once that this was the child of a cultivated mother, and that to have her for my pupil must be a gain to me.

I asked her the usual questions. She gave her name as Mary Lee; and, in her clear childish voice, she told me about her studies, and how far she had advanced in the text-books, which filled the neat satchel. Setting her some tasks for the day, I turned away.

Two new boys, big, burly fellows, had joined the school. One had a shock of red hair, standing out like an aureola around his freckled face, large, flapping ears, and small, deep-set eyes, of the color of pale sherry. The other was dark, sallow, and sullen, with eyes of velvet blackness, and hair as black, perfectly straight, and falling, *a-la-Chadband*, down each lank cheek, and over the retreating forehead. I foreboded mischief.

Both looked defiantly—the one active, the other sullen.

Red hair informed me, in a high, squeaking voice, that he expected to read in the "Testament." He might do some sums, and get a "jography lesson sometimes." Black hair brought an ancient arithmetic, of a sort which I had condemned the day before, and "reckoned he might parse a little."

I quietly informed the one that the New Testament would not be used as a reading-book in the school, and told the other that he must bring another arithmetic. I turned away, knowing that the struggle had begun. Was I to be master or to be mastered? It is no shame to me now, to say that, boy as I was, and brave enough at heart, I trembled inwardly. I was a stripling and a student. Physically, these boys, neither of them as old as myself, were my superiors. In a moral contest, I should doubt-

less come off-conqueror. But if the strife was to be decided by muscle, I knew that I should be but as an infant in the hands of either of them.

I proceeded quietly with my duties, but before the morning session closed, I perceived that the leaven of insubordination was spreading. Entirely new to my present duties, I felt unable to act without a guide, and resolved to do nothing until I had consulted my good friend the deacon. I knew that I had but the alternative of maintaining my authority or abandoning my engagement.

It was not a happy morning that I spent listening to the droning voices of the children, slowly making their way through their reading lessons; although at another time there might have been much to touch my keen sense of the ludicrous in this monotonous measuring off of the stilted platitudes, and high-sounding moral and philosophical lessons of the English Reader, evidently without the slightest comprehension of their meaning.

On the whole, however, I was glad that this opposition had met me upon the threshold of my new career, that I had not been lulled into false security, only to be awakened by an unexpected blow. By the next day I should be prepared to meet my foes, or, finding them too strong for me, to withdraw without coming to a struggle. Of this latter course, however, I would not think. I was unwilling to show myself a coward, and certainly I did not feel like one. We were a quiet unaggressive race, the Gurdons; but some noted soldier-blood, as well as that of a missionary who had fought the good fight with as unflinching courage, had descended to me through my mother's veins. Should I flee before these rustic youths, brutal through ignorance, and with only the brute's unreasoning courage?

At noon, such of the pupils as resided near went home for dinner, but nearly all remained. After dinner, the boys played noisily outside, and the girls gathered in tittering groups within. I ate the apple-pie and doughnuts that Mrs. Lawrence had provided, and then turned to the copy-books which had accumulated upon my desk.

It was a part of my duties, I found, to "set" copies—to write straight marks, or "pot-hooks and hangers," in the books of the little ones, and some moral or proverbial sentiment in those of the elder pupils.

At intervals, while engaged in this task, the window near my desk was darkened, and looking up I caught Red-head with his nose flattened against the pane till it assumed the appearance of a huge white dot in the center of his glowing visage, while his fiery eyes shot at me gleams, half malicious, half mischievous. Peace was my policy for this day, however, and I took no notice. When the recess was over, and the school called, he and his companion had disappeared. As my trusty lieutenant, Robert Lawrence, was also absent, having gone to the nearest town to purchase books for his winter studies, I was well-pleased to insure this cessation of

hostilities. The afternoon passed quietly with the writing lessons, the rehearsal of the tasks learned in the morning, and a brief "talk" by myself upon the rudiments of geography. At the close, I congratulated myself on detecting a freshening air of interest in the school.

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## CHAPTER V.

### A CONSULTATION AND A CRISIS.

THAT night I had my promised consultation with Deacon Lawrence.

He had heard of my difficulties from the children who had hastened home to tell him that none of the scholars were going to get new books, and that Jim Howland and Andrew Haight had come to school "a purpose" to make a disturbance :—how they had uttered many disparaging criticisms upon my white hands and teeth, my well-brushed hair, and especially upon my "boughten clothes ;" and if they had not been seduced away by a dog-fight in the neighborhood, they would have broken out during the afternoon. Thus I found him well-informed upon the "situation," and able to appreciate its dangers and difficulties.

"I see that they mean trouble," said the deacon. "There was some dissatisfaction in the district when we hired you ; for your price, though I dare say it looks small enough to you, was larger than we are used to paying ; and they expected you, as a 'college larnt' youth, to put on airs. Even Mr. Lee, who has been about a year in the neighborhood, and has always regretted the poor schools, was opposed to your coming. But I'll bring you through. Hold your own. Be mild, but decided, and convince them that whatever requirements you make are really made for the good of the scholars, and the opposition will cease."

"But about these boys?" I asked, seeing that the good deacon had strayed into generalities.

"Wal !" he answered, judiciously, "they mean mischief, that's certain, but they shan't do much while I'm trustee. Howland don't belong to this deestrick, anyhow, and I'll turn him out, he's no right there ; and Haight's afeard of his guardeen, who's threatened, afore now, to take him over to the river and 'printice him to a trade. I ain't afeered but what I can manage 'em both."

"And about the books? Without apparatus or text-books, without even a blackboard, I do not see how I can do justice either to myself or to the pupils. I did succeed in arousing their attention to-day by a talk about geography, but I can hardly succeed in teaching them much without means of illustration."

"Wal, wal ! we'll see about that, too. You young folks are awful go-ahead, and think you know more than all the old ones. What's the matter with the books, hey?"

"They are old and ragged, and in every way behind the times. And they are of such various kinds that it is impossible to form classes, and thus waken a sense of emulation. Let us have modern books, and I'll engage that the scholars will progress twice as fast as will be possible with the present arrangement, or want of arrangement. You expect a mechanic, when you hire him, to work with good tools, and you would not expect a ploughman to scratch the ground with a crooked stick. How, then, can you expect me to cultivate these young minds, or to build up a fair fabric of knowledge for them, with worn-out and useless implements?"

"By George!" exclaimed the deacon, and this was his worst oath, "you're right, boy! I—I mean, Mr. Gurdon—but you look so young, I forget sometimes. I'll tell 'em this, and I do believe you mean to do the fair thing by us all. They can afford to pay something for a teacher who cares about the scholars' larnin' something, and they shall. The trustees can order a change of books in the school, and it shall be done."

From this speech I learned two things: that the deacon had been attached to the old ways, was a little jealous of newfangled notions, and that I had made a convert of him. I thought it best to conclude the conversation by saying that I had a number of charts and maps at home, which I would send for, if he would agree to have a blackboard made at once. And, as he assented with the utmost cheerfulness, I thought it best to say no more, but turned to Robert, who was waiting for help in his Latin lesson.

In the morning, the deacon informed me that he should call a school-meeting that night, and handed me a written notice, which Robert was to put up on the school-house door.

"I've got the rheumatiz terribly this morning," he said, "or I'd come down and see how you git along. But I will try and git well enough to go to the meeting to-night. I reckon them boys won't trouble you to-day. Try and git along peaceable, anyhow, till after to-night."

With this injunction, I proceeded to my third day's duties.

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MR. NAUDIN, whose essays have been published in the *Comptes-Rendus* of the French Academy, has been applying Darwin's animal theory to plants, and has been eminently successful. He has conducted numerous investigations upon the hybridism of plants, and he informs us that plants submitted to culture give rise to new forms, which at length, either by artificial or natural selection, acquire stability, and are even reproduced as if they were genuine species. He has concluded—and his observations seem to warrant his conclusions—that individual plants produced by cultivation, after a certain period, become as stable as real species, and deserve to be ranked among them.

## THE TEACHER IN THE SICK-ROOM.

**B**E not surprised, gentle reader ; we have not made a mistake. We do not mean the physician or the nurse in the sick-room ; they, of course, will be there. But we mean this : in many sick-rooms the teacher should be a frequent visitor.

Our mission is to benefit children ; and wherever they are to be found, there we should seek them. Not many of us will pass through our winter-term without missing first one and then another from the class and the school-room. Inquire, and you will be told they are sick. They may not be very ill ; they may be in their places again in a few days ; yet these absent ones must not be neglected.

We must visit them in their chambers of suffering. We must let them see and feel how much we care for them, how deeply we are interested in them. Go in with a bright, cheery smile, with sympathy in your heart and voice ; talk with them pleasantly for a little while, tell them something amusing if you can, try to do something for their comfort, and both you and they will be the better for your visit.

When any of my own pupils are detained from school by sickness they are sure of an early call from their teacher ; they *know* she will come. The frequent greeting of the mother is, " Good-evening, Miss Murray ; Fanny is expecting you ;" or if, perchance, I have been prevented from going as soon as usual, it will be, " I am glad to see you, Miss Murray ; Lizzie has been wondering why you did not come ;" and the brightening eyes of the little invalid, and their smiles of welcome, show that they do not consider it a mere visit of ceremony.

Not long since, a favorite pupil, who had been teaching in a neighboring town, came home very sick. I did not hear of it for several days, but called as soon as I did. Her first words were, " I am so glad you have come ; I did not feel as if it was quite home until I had seen you." Now, would not any teacher be gratified by such an assurance of even one pupil's regard ?

But, besides going, I often take with me something to amuse or interest the sick ones ; something to occupy their minds for a little while, and make them forget their suffering. Sometimes it will be a child's paper, a set of pretty cards, or a picture-book ; sometimes a new magazine, an album of choice pictures, or any thing I may have that is new, rare, or curious ; and, again, flowers or fruit, or some little delicacy to tempt a dainty palate. A rare flower in winter, or a few early violets in spring, will often carry fragrance and brightness into the dreary chamber, and hopeful thoughts to its sick and weary inmate.

No heart, especially no child's heart, is insensible to kindness ; and the

little attentions that may be shown to a sick pupil will often—I believe, always—be productive of permanent good. The susceptible nature of youth highly appreciates such evidence of tender consideration. It awakens a new sense of the teacher's interest in them, and inspires a new faith in the teacher's efforts for their improvement. The return to the school-room of a pupil who, during sickness, has been affectionately visited, is often marked by a more earnest effort to perform faithfully all school duties than has ever before been manifested, while a new light in the eyes shows that now, indeed, the teacher is regarded as a friend.

Children do not stop to reason about these things. Love begets love ; and when they once feel that a teacher really cares for them, their affection is spontaneously given.

Then, when a teacher, by genuine courtesy, both in and out of school, has won the hearts of his pupils, he may mold them as he will. Their desire to please him will know no limits. He may lead them to any height of mental attainment of which they are capable ; and, better than all, he may guide them in paths of moral truth and purity, and impress lessons of heavenly wisdom upon hearts that are ready to receive and profit by his teachings.

Another, and perhaps not a secondary consideration, is that children, ever more ready to learn from example than from precept, will insensibly adopt the habits of those whom they love and esteem. The little amenities and charities of life have a charm for their young hearts that needs but the encouragement of example to win them to all good and kindly deeds.

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HE whose sympathies with nature have taught him to feel that there is a fellowship between all God's creatures, to love the brilliant ore better than the dull ingot ; iodic silver and crystalized red copper better than the shillings and pennies forged from them by the coiner's cunning ; a venerable oak-tree than the brandy cask whose staves are split out from its heart-wood ; a bed of anemones, hepaticas, or wood violets, than the leeks and onions which he may grow on the soil and in the air they made fragrant ; he who has enjoyed that special training of the heart and intellect which can be acquired only in the unviolated sanctuaries of nature, "where man is distant, but God is near," will not rashly assert his right to extirpate a tribe of harmless vegetables barely because their products neither tickle his palate nor fill his pocket ; and his regret at the dwindling area of the forest solitude will be augmented by the reflection that the nurslings of the woodland perish with the pines, the oaks, and the beeches that sheltered them.—Marsh : "Man and Nature."



## DIMENSIONS OF THE EARTH—HOW ASCERTAINED.

TO many it is a matter of mystery how such facts as the exact dimensions of the globe on which we live, its distance from the sun, and the magnitude of the sun, are ascertained. It is supposed that none but astronomers and profound mathematicians can understand such matters. This is a mistake. For, although we may not have the ability of a Newcomen or a Watts to invent a steam-engine, there is no reason why we should not understand its operations after it is invented. So it is with the world. We may understand the methods employed to ascertain its magnitude, without being gifted with the mind of a Herschel or a Newton. The earth is so large that we can not grasp it, and so diversified with land and water, mountain and valley, that we can not walk about it in a direct line to measure its circumference; nor can we penetrate through it to ascertain its diameter; nor recede from it, to take such observations as would enable a land-surveyor to tell the height of an object on the opposite side of a river. Some other contrivance must be resorted to, in order to obtain the desired information. If the earth were strictly a sphere, the measurement of any of its great circles, such as the equator or a meridian, would give its circumference; or, as all circles, from the ring which adorns a lady's finger to the meridian which surrounds the world, are supposed to be divided into 360 equal parts, called degrees, it is evident that if we knew the length of one degree of a circle we could obtain the circumference. But how shall we know how much of the earth's surface corresponds to one degree of its meridian? The reader will please accompany me on an imaginary journey; but, before our departure, we will stroll out into the open fields, and, on some gentle eminence, will pause to survey the beauty of the azure vault above and around us, glittering with stars. We shall not fail to be impressed with the sensation that we are standing in the center of a vast dome, with its base resting on the horizon, and its summit directly over our heads. Now, let us find the North Polar Star, by whose guidance the wanderer in northern latitudes is directed. To do this, we must turn to that conspicuous object in the northern heavens, the "Dipper," a part of the constellation known as the Great Bear.

The two stars opposite the side of the Dipper to which the handle is attached, are called the "Pointers," because almost in a right line through them may be found the Polar Star. The Pointers are five degrees apart, a convenient measuring rule to find the number of degrees that one star is from another, or that a star is from the zenith or from the horizon. Looking in the direction indicated by the Pointers, and about four times the space between them, or about  $20^{\circ}$ , we shall find the object of our search. It is

not a very large or brilliant star ; yet is larger and more conspicuous than any of the stars in its immediate vicinity.

Having found the star toward which the North Pole of the earth is directed, and measuring its distance from the horizon by the space between the Pointers, we find that it is about  $40^{\circ}$  from the horizon.

We now set out on our contemplated voyage, traveling directly south—that is, on a meridian of the earth—until we have gone over a distance of seventy miles. Looking back on the North Star, we find it one degree nearer the horizon than when we started. We travel another seventy miles. Our guide is two degrees nearer the horizon. Reflecting on the cause of this, we conclude that we must have traveled two degrees south on a meridian to cause the Polar Star to sink two degrees toward the northern horizon. Such is the fact ; every degree of seventy miles (or, more correctly, of  $69\frac{1}{2}$  miles) traveled toward the south will make the star appear one degree nearer the horizon, until we reach the equator, when it will be seen glimmering on the verge of the northern horizon.

Continuing our journey southward, and leaving the star which has so far been our companion to sink from our view, we pass through the southern regions, and around on the other side of the world, northward, until we reach the equator, when our long-lost star will again appear. It will continue to rise as we advance, until we reach the north pole, when it will appear exactly over our heads, or in the zenith. Pursuing our journey southward and homeward, the star gradually sinking, we arrive at the city of New York,  $41^{\circ}$  degrees north latitude, with the Polar Star  $41^{\circ}$  degrees from the horizon.

Sufficient, it is presumed, has been said to show that we must look to the stars to tell us the length of the degrees of our meridians. Let us select some point, on an open plain, that shall have a star exactly in the zenith. Then the distance, either directly north or south of this station, that will cause the star chosen for our observation to appear just one degree north or south of the observer, will be the length of a degree on the earth's surface, which multiplied by 360, if the earth were strictly a sphere, would give its circumference. Such, in the main, are the means employed to find the dimensions of the world. But, in measuring these degrees or arcs of a meridian, it was found, by a series of observations, in different countries, in different latitudes, and by different mathematicians, that the degrees differed slightly in length, gradually increasing from the equator toward the polar regions, which proved that the earth, instead of being a sphere, is what mathematicians call an oblate spheroid.

Only one arc of a meridian has been measured in America, and that was about one hundred years ago, by those eminent astronomers and mathematicians, Mason and Dixon, who surveyed and established the famous boundary known as "Mason and Dixon's line," which separates Pennsylvania from Maryland.

## AMERICAN EDUCATIONAL MONTHLY.

MARCH, 1866.

## THE REGIMEN OF BOARDING-SCHOOLS.

**M**AN, in opposition to every thing else in nature, thrives best when worst fed.

Very few would assent to this proposition as it stands ; but cover it with a little pseudo-science, and garnish it well with fine talk about physiology, health, beauty, simple diet, etc., and you have the actual, if not the avowed, theory of many. A man who would attempt to rear prize-cattle on straw would be likely to have his sanity doubted. Should he advocate a corresponding diet for men, he would be in danger of being called a philosopher. There are many such philosophers in these days ; and it has become very popular to commend a meager diet. Some even insist that our food should be strictly vegetable ; and are so infatuated with the theory as to practice it upon themselves. Others, and probably the majority, are not quite so sure, and are willing only to try it upon their children. It is a favorite notion with these theorists, that most of the various ills that flesh is heir to may be ascribed to one cause—over-feeding—especially during childhood. And so exaggerated are the effects attributed to “high, living,” that parents, in their anxiety to be on the safe side, are unwittingly carried to the other extreme, and feed their children too little, instead of too much. While chemistry, physiology, and common experience alike teach that children require more abundant and more nutritious food than adults, they are generally put off with not only an inferior quality, but an inferior quantity.

Dr. Erasmus Wilson, speaking of this matter, says, that the practice of under-feeding children is almost universal ; and that the majority of the diseases of children arises from this habit of under-feeding.

If a person who has attained full growth does not desire much food, and prefers one kind to another, there is no reason why he should not gratify his taste and inclination ; but there is reason why he should not insist upon regulating the stomachs of others, especially of children, by his own.

Mr. Herbert Spencer, in his able work on “Education,” protests

strongly against this practice of under-feeding children, and the confidence with which most parents legislate for the stomachs of their children. "It proves," he says, "their unacquaintance with physiology. If they knew more, they would be more modest."

But it is not at home that children are likely to suffer most from the effects of this pernicious theory. It exerts a powerful influence in determining the regimen of our schools; and, what is worse, it is sometimes made a pretext, while profit is the actual motive. We would not be so unjust as to intimate that selfish motives alone govern those proprietors of boarding-schools, who, acting upon the theory that simple food is best for students, provide only the simplest elements of nutrition, and in the least possible quantity and variety. The majority are doubtless conscientious, and only the theory is in fault; but the kindest intentions will not atone for a vicious practice. It matters little to the pupils what the master's motives and opinions may be, so long as the rations run short.

"It is notorious," writes Dr. Wilson, "that the importance of a substantial diet is not sufficiently recognized in our scholastic establishments; and the consequence to the pupils is debility and disease, a constant appeal to the doctor for tonics, *vice* food; a frequent outbreak of ringworm; and, worse than all, the laying of a foundation for future organic disease and morbid life, or premature death." This evil is, doubtless, less frequent in this country than in England; but there is need of reform here.

Those who advocate a simple or vegetable diet, base their argument chiefly upon a chemical theory, still quite popular, although recent authorities have shown it to be unfounded in nature and fact; and, holding to the common theory of the nature and action of the various kinds of food, they will doubtless exclaim against the following, prescribed by Dr. Wilson, as a diet of health, capable of making a sound body, and also a sound mind; but it is founded upon reason and sound science; and we would like to see it established in every family and family school: "The diet of children of all ages, should be substantial breakfast, with animal food in some shape; a substantial dinner of meat, vegetables, and cereal pudding; and a substantial supper also, consisting in part of animal food. The drink may be milk, tea, cocoa, and possibly beer."

"There must be no putting off of the stomach," he adds, "with bread and butter and slops, as the effigies of two of the three meals of the day, but a generous intermingling of all the elements that constitute a sound and nutritious diet."

With such fare as this, plenty of time being given for digestion, the demands for growth and for the waste of the system occasioned by youthful activity and the brain-work required by long lessons, would be well supplied ; and our children at school might be as hearty and healthy as they are when enjoying their summer vacations in the country.

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ELIPHALET NOTT, D. D., LL. D.

**D**IED, on the morning of January 29, the venerable president of Union College. His early life was spent in poverty, his parents having lost all their property by fire shortly before his birth, which occurred June 25, 1773. His earliest intellectual developments were extraordinary, and his desire for knowledge was insatiable. The lack of school facilities was more than supplied by the instructions he received from his mother, a lady of excellent sense, fine culture, and exemplary character. To this best of teachers, Dr. Nott was wont to ascribe whatever of success or excellence he attained in after-years. She died when he was twelve years of age ; and shortly after he left Ashford, his birthplace, and went to live with his brother, Rev. Samuel Nott, at Franklin, Conn. Here he worked during the summer, and studied under his brother during the winter. He commenced teaching at the age of sixteen. Two years after, he took charge of the Plainfield Academy, prosecuting his classical studies at the same time, under the direction of Rev. Dr. Joel Benedict, whose daughter he subsequently married. At twenty he entered Brown University, where he continued about one year. He ranked at the head of his class, both in mathematics and languages, and graduated out of due course in 1795. After graduating, he studied for the ministry ; was licensed to preach by the Congregational Association of New London County, and sent on a mission to the then destitute part of New York, bordering on Otsego Lake. After spending a time in this thinly-inhabited region, he was invited to settle in Cherry Valley, Otsego County, N. Y., in the double capacity of preacher and teacher. Both church and school flourished under his care until, in 1778, he accepted a call from the First Presbyterian Church of Albany. In 1804 he was chosen President of Union College, then in its infancy, burdened with debt, and without suitable buildings, library, or apparatus. Under the successful management of Dr. Nott the college rose rapidly from the humble condition in

which he found it—one professor and forty students meeting in a cabinet-maker's shop—to the honorable position which it has long occupied among the institutions of the land.

A teacher for nearly three-fourths of a century, his services in the cause of education have been equaled by few. His influence upon the young men of the country is beyond estimation, upward of four thousand having graduated at Union College during his long incumbency. His last appearance in the lecture-room was in September, 1860 ; at Commencement, in 1862. Since that time he has been gradually declining. He was buried in Vale Cemetery, Schenectady, Friday, February 2d.

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#### ENGLISH COMPOSITION.

**A** YOUTH, desiring to become a painter, enters, as a pupil, the studio of Mr. Artist.

He listens with patient attention to the preliminary lecture upon the greatness and utility of his chosen art, anxiously awaiting the instruction that shall open the way to its mysteries and rewards.

Just as he is ready for his first lesson, he is told—"Here are all the requisite materials—canvas, colors, pencils—every thing that you need. Set to work immediately. Take any subject from life, or history, or nature—any thing that you choose, and express your conception clearly. Be very careful that you do not copy or imitate any one, and be careful to use proper colors." "But," cries the pupil, "I never painted a picture in my life ; I don't know how !" "Of course you do not," replies the teacher. "If you did, you would not come here to learn. But you know what a brush is, and can tell red from green, and blue from yellow : there is no reason, then, why you should not be able to paint. You can see as well as others ; all you need is a little practice. It is not necessary that you take a difficult subject at first. In fact, it would be best for you to choose something simple—a landscape, for example, or a street scene—any thing that you are perfectly familiar with. Do the best you can, and bring your picture to me next week ; I will examine it, and correct the errors, and then you can have it framed for exhibition !"

Writing is no less an art than painting. How is it, then, that a course commonly adopted for composition seems so absurd when applied to painting ? Is not the absurdity as great in one case as in the other, only custom makes it less apparent ?

## EDITORIAL CORRESPONDENCE.

BERLIN, February 4, 1866.

*University of Berlin—Faculty—Lectures—Barth—Advice to Students—German Language—English Universities—Books—Influence of the University of Berlin.*

THE great intellectual and scholastic center of the Prussian capital is the University, an institution which, although not yet half a century old, has shot up with such wonderful rapidity as to have outstripped all its German rivals; even if it may not be said to have taken rank higher than Cambridge and Oxford. Its foundations were laid on a grand scale, and some of the greatest men of Prussia's past co-operated in its establishment. Fichte, William Humboldt, Schleiermacher, Savigny, Niebuhr, and Stein labored together; and the result is worthy of their great names. All that the public spirit of the excellent Frederick William III. could do to give the institution success was done. A royal palace on the main street of the city, and most advantageously situated in every respect, was delegated for the use of the new University; the ablest men in Germany were called to the chairs; and among the younger professors were some men whose lives seemed indicative of great promise, among whom may be mentioned Bopp, Böckh, and Ritter. The stand taken at the first has never been abandoned. The University has never languished for the means of support; the ablest men are continually called to its chairs; and whenever a man in the smaller universities has reached signal eminence, Berlin endeavors to draw him hither. In this way, since I was here in 1860, the great orientalist, Rödiger, the life-long friend of our Robinson, has been drawn from Halle; Dörner, the most eminent theologian of Germany, with the possible exception of Rothe, at Heidelberg, has come from Bonn; and a special chair has been created for the great traveler Barth, whose lamented death has not yet run the round of the press. Hofmann, the great chemist, who, although a German by birth, sought fortune and fame in England, and found both, has come back to Germany again, and accepted a position in Berlin. The smaller universities do not decline as this greater one increases. They hold their own well; and Bonn and

Heidelberg, Göttingen and Halle, Leipsig and Breslau, all stand as well now as they have done for many long years. Nay, even the institutions whose names are little known to the world—Greifswald, Jena, Giessen, Kiel, Marburg, and those of similar grade—diminish, in respect to influence, very gradually; and there is scarcely one which has not one, two, or even more men on its corps of professors of first-class eminence.

In some departments of study, too, the smaller universities have precedence. It is generally admitted that the student of chemistry has to choose between Heidelberg and Göttingen; that the student of Hebrew history or literature must hear Ewald at Göttingen; that philology may be studied at Bonn and Leipsig, and history at Bonn and Heidelberg as well as at Berlin. But further than this we can not go. There are at each of these great universities, Bonn, Heidelberg, Göttingen, Halle, and Leipsig, a half-dozen men of great eminence—nay, of the greatest—but here at Berlin there are four times as many. And then, too, the great size of the faculty affords an opportunity of studying almost every subject in detail. Whatever language, ancient or modern, whatever branch of mathematics, whatever department of natural science are studied at all, are taught here by the most competent, and often by the most eminent teachers. Just glance at the composition of the faculty. The entire corps comprises not far from a hundred and sixty men. Among the names are found the great ones of Lepsius, the Egyptologist; Kiepert, the cartographer; Rose and Hofmann, the chemists; Petermann and Rödiger, the orientalists; Nitsch, Zwerten, and Dörner, the theologians; Ranke and Droysen, the historians; Virchow and Langenbeck, the physicians; Graefe, the oculist; Waagen, the art critic; Dore, the meteorologist; Böckh, Bekker, and Bopp, the philologists, and Marx, the musician. These may be the best known to the world at large; but there are many others who are thoroughly known in Germany—men of immense research and unbounded acquisition in the field which they have chosen.

A glance at the list of the lectures given the present term may serve to show the

minuteness of the subdivision of studies. As I open it, my eye falls first upon the various languages taught here. In addition to the Latin, Greek, and Hebrew, which are taught not only in connection with well-known authors, but with inscriptions on ancient stones and the deciphering of manuscripts, we have, as a matter of course, all the chief languages of modern Europe, including the Turkish, the Greek, the Polish, and the Russian. In addition to these, we have the old German, the old English, the Anglo-Saxon, the Sanscrit, Hindustani, Persian, Arabic, including the interpretation of the Koran; Syriac, Chaldaic, the ancient Egyptian, and the comparative grammar of all the Semitic tongues. Nor are these languages taught by men who have a mere rudimentary acquaintance with them; they are in the hands of men whose reputation, like that of Lepsius and Rödiger, is world-wide.

Take, again, the two departments of geography and history, which are rightly connected here, and shown to be interdependent. The distinguished Von Rauner is lecturing on the "History of Civil Constitutions;" the scarcely less eminent Droysen is upon "Greek History;" Ranke upon the "Parliamentary History of England;" Droysen is delivering a second course upon the "European Revolution from 1780 to 1815;" Köpke on "German History;" Meyer on the "History of the German Universities;" Petermann on the "History of the Armenians;" Lepsius on "Egyptian History;" Erdmannsdorf on the "General History of Civilization," and Müller on the "History of the New World." This does not include the lectures on ecclesiastical history, of which there are always several courses. We have in the kindred department alluded to above, Müller on the "Geography and Ethnography of Europe;" Kiepert on "Ancient Geography;" and Barth on the "Physical and Comparative Geography of the Mediterranean Basin." The latter man, whom it is a great privilege to have known as a friend, has just passed away, in the midst of his honors and labors. In his perilous African expedition he undermined his constitution; and, although at my last interview he looked extremely well, he passed away at last so suddenly that there was not time even to call a physician. The earth has just closed upon his remains.

But what I have written above is enough

to show the wonderful subdivision of study which exists here, and the breadth of ground covered by the whole corps of lecturers. Let me sum up this part of my subject in a word, by saying that there are almost four hundred courses of lectures now going on in this University of Berlin. They go so far out of the ordinary round of our American curriculum as to embrace dancing, fencing, and riding. They range from the profoundest science and philology down to the most graceful discussions of the lighter branches of modern literature.

And yet, I would not wish to say a word in this letter which should impel young men in America to come to Germany in search of instruction. Great as are the advantages of study in such a university as this, I believe that the obstacle imposed by this difficult German language is such as to make it advisable to visit those universities where the veil of a foreign tongue is not between the speaker and the hearer. There are microscopists in England who are so little inferior to Ehrenberg, that even the scientific world would be puzzled to tell which to prefer; but it is a piece of senseless folly for a young man beginning to learn microscopy to pass over England to come and put himself under the great Ehrenberg, and always have the flim of an obscure interpretation of his master's language disturbing the reception of his instruction. And what is true here is true of almost every thing. There is hardly a subject which is not taught as well in the English language as in the German. There is no greater ichthyologist in the world than our Agassiz; no greater geographer than our Guyot; there are no geologists who stand higher than Buckland and Lyell; no astronomer, than Airy; no physicists, than Farraday and Tyndall; and were I to choose between London and Berlin as a place of study, I should, on account of the great weight of the reason given above, not hesitate a moment in giving the preference to London. Yet we find that Americans hurry over London to the continent. Even Edinburgh offers, in some respects, and Cambridge and Oxford in others, greater advantages than are afforded here; for while there may not be so wide a range of studies possible, they each are the home of some men who are almost unrivaled in their special department. Germany looks up to England quite as much as England looks to Germany; and



even the Germans, with all their pride of scholarship, are surprised that we can pass over England and come to them.

I can not emphasize enough the difficulty placed in the way by the acquisition of the German language. Fifteen years' acquaintance with it makes me safe in asserting this; and I do not hesitate to say that at least two years must be spent on the language alone before one can go from lecture-room to lecture-room, and understand every word that is spoken, and forget the veil between the speaker and the hearer. Nuy, I can go further, and say that I do not know a man who has been in this country for three years who has got over all the difficulties which lie in the way, and who hears a lecture in German as he would hear one in English.

Add to this, that all the good books—the books, at any rate, which are better than the English and the American ones—are instantly translated, and there remains not a reason why one must sacrifice pains, and time, and money, in visiting even such a thoroughly equipped university as this of Berlin. In King's College, London, in Edinburgh University, in Dublin University, not to speak of Cambridge and Oxford, there are lectures constantly given; and those of the first three are accessible to all who wish to hear them, while their lists of professors leave little to be desired.

I can say what has been written above with much more confidence now than ten or twenty years ago. Then Germany was, in some departments at least, the teacher of the world. Geography could only be studied of her Ritter and Humboldt; Von Buch was the dominant authority among geologists; in music, Germany had incontestable superiority, and in art she reigned without a rival. But the artists and scholars who stood incontestably higher than those in England have all passed away. Humboldt, Ritter, Buch, Mendelssohn, Schadow, Schumann, Rauch, Kiss, are all among the dead. Still, in reference to Germany, and not to the wants of American students, I can not express too great praise at the great strength and illustrious position of the university which is the subject of this letter. It is one of the marked objects of the world of culture; it is one of the centers of thought. Remotely or immediately, it extends its influence to the ends of the earth.

W. L. G.

KINGSTON, N. Y.

MR. EDITOR—Please allow a friendly criticism on the communication of "J. J. S.," in your January number. The statement in the first paragraph is fully indorsed. The next, concerning the officer who thought he could "teach school," is passed over.

It is to be regretted that any teacher should make statements like those in the remaining portion of the article. 'It is not clear that a child's inclination is against study; and I do not understand how a child "picks up the sounds of letters from a tin plate!"

If the boy had forgotten the letters, why put him through the stunting process again? It is not seen what was gained after he had learned the letters by the "hoop" and "saw-buck" method; and it is difficult to see what that lesson had to do with "object teaching."

It will be pleasant to know how the letter B resembles an "ox-shoe," and also how the boy would understand that O-X spell ox or oxen, by the teacher's pointing to the animals feeding.

The changing of a boy that was "unusually dull" to one that was "as bright as need be," in one evening, was certainly very remarkable. It is well that the scene was laid in a "foreign" country.

I should have said nothing, if the article had not appeared in an influential educational journal, that, in some degree, seems to sanction the views of the writer, "J. J. S." It will do harm, because it indorses and tends to promote and perpetuate a method of primary teaching that should long ago have been forgotten.

T. O. GARFOTE.

#### THE SACRED ELEPHANT OF INDIA.

AN article in your January number entitled "Curious Arithmetical Calculations," reminds me of a heathen legend, which, perhaps, will prove amusing to your juvenile readers, if not edifying to older people.

In India it is currently reported and believed that somewhere there is an immense elephant, which, on account of his size and influence, is an object of worship. It is said that this animal has seven heads; protruding from each head are seven tusks; upon each tusk are seven water-tanks; out of each water-tank spring seven water-

lilies; connected with each lily are seven leaves; upon each leaf are located seven palaces; and in each palace is a lady who has five hundred attendants to do her bidding.

Now, a nice question in arithmetic is, how many people resided on this seven-headed monster? Will they number as many as the army of our late brave defenders? How far will they come short of the population of this great republic? Let us see.

|                                 |            |
|---------------------------------|------------|
| The elephant's heads are, . . . | 7          |
| His tusks, . . . . .            | 49         |
| The water-tanks, . . . . .      | 343        |
| The lilies, . . . . .           | 2,401      |
| The leaves, . . . . .           | 16,807     |
| The palaces, . . . . .          | 117,649    |
| The people, . . . . .           | 58,942,149 |

Nearly fifty-nine millions of people. On the supposition that these people are neither pigmies nor giants, but of ordinary size, what a tremendous weight that poor animal must perpetually sustain! P. S.

## CURRENT PUBLICATIONS.

A VALUABLE addition has been made to our list of text-books.<sup>1</sup> Mr. Brooks has evidently given much attention to his subject, and his book shows careful preparation. His "Suggestions to Teachers" are well worthy of attention, and his method of analysis is clear and logical. He has avoided many of the errors of writers upon mental arithmetic; but we fear that he has fallen into a greater error—that of overestimating the mental powers of those for whom he has written.

He tells us in the preface, that "the work is not designed for the child's first book in the science of numbers, and, therefore, the more elementary operations have not been needlessly enlarged upon; yet the arrangement is so systematic, and the transition from the easy to the complex so gradual, that even very young pupils can pursue it with ease and advantage." This opinion we can not share. In fact, we feel quite certain that, for young pupils, the book will be neither easy nor advantageous. There is much in it that will tax all the powers of pupils well advanced.

It would have been much better had the author "enlarged" more upon the "elementary operations," and been more sparing of what he terms the "complex."

Nor is the "transition" so "easy and gradual," as a comparison of different parts of the work will show.

Section I. contains five lessons, and occupies fourteen pages. The first question of Lesson I. is: "If I have two cents in

one hand, and one cent in the other, how many have I in both?" The last example in Lesson V. is: "Think of a number; multiply it by 5; multiply that by 4; divide the product by 10; multiply by 6; divide by 3; add 30; subtract four times the number; divide by 5, and name the quotient."

Remembering that, according to the author's plan, the pupil is not permitted to use the book during recitation, this seems to be a more rapid advance than "very young pupils" can make "with ease and advantage."

Section II. contains twelve lessons, and occupies twenty-eight pages. Here the pupil is supposed to get his first knowledge of fractional parts. In Lesson 1, occupying two pages, the first question is: "If I divide an apple into two equal parts, what is one of these parts called?" and the last one is: "A merchant having forty barrels of flour, sold three-fourths of them, and then bought one-third as many as he sold. How many had he then?"

Within the compass of these twenty-eight pages, the whole matter of equal parts, or the author's "fractional word," prime and composite numbers, prime factors, and prime factors that are common; divisors, common divisor, and greatest common divisor; multiple, common multiple, and least common multiple, and the subject of powers and roots, are presented, all well arranged and clearly exhibited. But the minds of "very young pupils" must expand with a rapidity we have never witnessed, or this is more than they can master in the time allotted; and we

(1) BROOKS' MENTAL ARITHMETIC. Philadelphia: Sower, Barnes & Fotts. 30 cents.

have no hesitation in cautioning teachers to be careful how they subject young children to such severity of effort.

For the older, *well-trained pupils*, the book furnishes an excellent means of mental discipline. Yet, even with these, we question whether that teacher will not be wise who shall omit many of the more complicated examples, as not yielding benefits corresponding with the effort which they require. Problems like the following can, without doubt, be solved mentally; but the time and effort can be employed more profitably in some other direction. Page 105: "A man receives \$530 to purchase sheep and cows; what sum will he expend for each, after deducting his commission, which is six per cent. of the money expended, provided he expends four times as much for cows as for sheep?"

Page 121: M.'s fortune, plus  $\frac{3}{4}$  of N.'s, which is equal to  $\frac{1}{2}$  of M.'s, is \$900; and if the sum of M.'s and N.'s be divided in the proportion of  $\frac{1}{2}$  to  $\frac{3}{4}$ , it will respectively give  $\frac{1}{2}$  of R.'s, and  $\frac{3}{4}$  of T.'s fortune; required the fortune of each."

THE names of Wilhem and Hullah have long been familiar to the musical world, on account of the eminent services rendered by these teachers of music in founding and conducting singing societies. The popular Orpheon Societies in France owe their origin and success chiefly to the labors of Wilhem.

To Hullah, England is in a great measure indebted for her monster choral festivals, which are unsurpassed even in Germany. The Orpheon Free Choral Schools in this country, which are doing such good work in diffusing musical instruction among the poorer classes, were founded by Mr. Hopkins, the well-known pianist and composer. For the use of these schools, Mr. Hopkins has prepared a little text-book,<sup>1</sup> which, in its peculiar field, is calculated to be eminently useful.

Compiled from the works of Wilhem and Hullah, which have been standard text-books in their respective countries for many years, it is well fitted for the use of schools of all kinds. It is small, comprehensive, and very cheap.

ANOTHER valuable little work<sup>2</sup> on the same subject is "Trastour's Rudiments."

The first part gives a concise and progressive summary of the elements of music, in a manner peculiarly simple and attractive.

The last part contains separate chapters on the choice of a teacher, the choice of a piano, proper course of instruction, and also lists of classical works for the piano, suited to different stages of progress, from which teachers and pupils may gain many useful hints.

A MAN who, by his labor or ingenuity, enables others to do in one hour a work that heretofore has required two, adds so much to the life and happiness of his fellows. He is a benefactor as well as he who causes two blades of grass to grow in the place of one.

Mr. Towle, instead of simply deploring the teacher's dread—monthly reports—has endeavored to deprive them of their terrors by making them less laborious.

How well he has succeeded teachers can best decide. He has devised a class register<sup>3</sup> which shows a pupil's entire daily, weekly, and monthly account at a single glance.

It is arranged somewhat in the form of a ledger, and its comprehensive simplicity would delight a banker. In the majority of our schools, where Tom is classed with Dick in arithmetic, with Harry in geography, and all three recite together in grammar, it can not, on the whole, be so convenient as the common forms. But a few names can be entered upon a single page; and, unless the scholars are together in all their studies, the labor of hunting up each name for recording each recitation will more than exceed that gained in making up the monthly summary. For graded schools, however, for which it is designed, it appears to be just what is needed.

LESS than fifty years ago, the nature of insanity was unknown. Men were blinded by the belief that mind was utterly distinct from body, and, conceiving that men-

<sup>(1)</sup> A METHOD OF TEACHING ORPHEON SINGING CLASSES. New York and Philadelphia: Schermerhorn, Bancroft & Co. Price 50 cents.

<sup>(2)</sup> RUDIMENTS OF MUSIC, for the Use of Teachers and their Pupils, and Especially Intended for Class-Teaching in Private and Public Schools. New York and Philadelphia: Schermerhorn, Bancroft & Co. Price 75 cents.

<sup>(3)</sup> TOWLE'S SCHOOL RECORD. New York: Schermerhorn, Bancroft & Co. Specimen pages, 10 cts.

tal diseases were incurable, cast out the lunatic as cursed of God. The error of this conception is now apparent. A miracle is no longer necessary to restore the insane. Diseases of the mind are diseases of the brain, are to be treated as physical diseases, and, in most cases, can be cured if treatment is resorted to in season.

For the thorough enunciation of this important truth, we are indebted to Dr. A. Briere de Boismont, whose "Rational History of Hallucinations" first brought the subject distinctly before medical men. The matter has since been carefully investigated by others, but with especial success by Dr. Forbes Winslow. In the introduction to his work,\* Dr. Winslow urgently enjoins the necessity of early treatment in cases of mental disorder. He shows that contrary to the accepted belief, brain disease is insidious and of slow development. He asserts that few cases are, *ab initio*, incurable. Unfortunately, the symptoms of incipient insanity are overlooked, the eccentricities are viewed merely as outcrops of the disposition, and the truth is believed, too often, only when the disease has passed beyond the reach of medicine. In the first seventeen chapters, Dr. Winslow discusses the psychology of mental diseases, and the

remainder of the work is devoted to their pathology.

This treatise may well be termed exhaustive. Every source of information seems to have been rigidly examined. Every morbid phenomenon, mental and physical, is carefully marked, and its relations and results are traced in a manner almost painfully detailed. One can scarcely overestimate the importance of this work. No better proof of its value can be given than the fact, that in three years it passed through three large editions in England, and a second has just been issued here. The style is far beyond that usual in medical or philosophical works; disfigured by no affectation of technicality, it is well fitted for the general reader as well as for the professional man. No person can peruse it without advantage.

THE American Journal of Science and Arts, for January, contains the following papers: Obituary of Sir W. J. Hooker; On a Boulder, and Glacial Scratches at Englewood, N. J.; Crystalline Nature of Glass; Contributions from the Sheffield Laboratory; Results of Observations on Drift Phenomena; A New Process of Elementary Analysis for the Determination of Sulphur in Organic Compounds; The Automatic Registering Barometer; On Molecular Physics, etc., with the usual scientific intelligence. The price of this Journal is now six dollars per annum.

(B) OBSCURE DISEASES OF THE BRAIN AND MIND.  
By FORBES WINSLOW, M.D., D.C.L., etc., etc.  
Second American Edition. Philadelphia: H. C.  
Lea. 8vo., pp. 483. \$4.25.

## NOTES AND QUERIES.

**M**R. EDITOR—Do you insert curious questions in Arithmetic? If so, here is one. The case actually occurred, and the question had to be solved by the court in the county in which I live:

**Problem.**—By the law of the State, an estate is divided, one-third to the widow, and two-thirds, in equal shares, to the children. If a child dies afterward, the widow has half of its part, and the surviving children share equally the other half. A man died, leaving a widow and ten children. Afterward, before the final division, seven children died in succession.

**Required.**—The shares, respectively, of the widow and the three remaining children.

[NOTE.—The answer is desired in a

convenient fraction, in small terms, which shall be a near approximation to the *exact* fractional results.] T.

### REPLY.

**T**HE query in the November number of the MONTHLY, concerning the capital of Maryland, I observe, has not yet been answered. Annapolis is, and has always been, our capital.

On the 25th of April, 1861, Governor Hicks convened the Legislature at Frederick, because Annapolis was occupied by the military. Only one session was held there, and our *capital* has never been any other than the "Ancient City."

MARYLAND.

## EDUCATIONAL INTELLIGENCE.

## NEW ENGLAND.

**MASSACHUSETTS.**—Governor Bullock, of Massachusetts, in his recent message to the legislature of that State, made some interesting statements concerning the effect of a State fund upon local liberality. A reserved fund, amounting to \$2,000,000, was completed in 1865. It was feared that the State fund would depress local beneficence; but the governor asserts the contrary. During the school year 1864-'5, all the municipalities in the State, with the exception of twenty-two, raised by taxation double the sum required by law for participation in the fund; and the whole sum raised annually for school purposes equals the fund itself. During the year \$1,940,000 was expended upon the schools, exclusive of money laid out on books and buildings. Governor Bullock urges upon the people the necessity of elevating the standard of compensation to teachers, as the only means of maintaining and enlarging the usefulness of public schools. Acting upon this suggestion, the town of Worcester has increased the salaries of its male teachers \$200, and those of its female teachers \$50 to \$75 beyond that of 1865.

—Harvard College is at last freed from immediate State control. The overseers and corporation have both accepted the act passed by the legislature last winter, relating to the choice of overseers. It thus becomes a law, under which overseers are to be chosen by the Alumni on Commencement Day.

## MIDDLE STATES.

**NEW YORK.**—The report of the Regents of the University represents the educational institutions of the State as prosperous. The Superintendent of Instruction shows that there was, during the past year, a great gain in the number and average attendance of pupils. There is an increased solicitude on the part of parents for teachers of higher qualifications. School Commissioners are more attentive than formerly. The Normal Schools were well attended, and the number of teachers instructed in institutes was 8,741. In his message, Governor Fenton suggests the propriety of establishing other normal and training schools. Those already existing are insufficient to supply the demand of the common schools, which require more than twenty thousand teachers annually. The manner in which the school fund is apportioned works well, and induces a better average attendance. Governor Fenton maintains the importance of sustaining the schools more liberally than at present.

**NEW JERSEY.**—The Board of Education in Camden are about to build a new school-house, at a cost of \$20,000.

**PENNSYLVANIA.**—The late Jno. M. Porter, of Tarentown, left about \$120,000 for the establishment of a college at that place.

## WESTERN STATES.

**OHIO.**—The Secretary of the Ohio Agricultural Society wrote some time ago to Liebig, respecting the agricultural college about to be established in that State with the proceeds of the government lands. Among others, the answer contained the following observations, which are especially worthy of careful consideration: "In America you spend too much money in putting up your educational buildings, and then starve your professors. I learn that you put up a very grand building in your city of Columbus, called the Starling Medical College. I have a picture of it. I am told that it cost some \$70,000 or \$75,000, and now you are starving the professors in it. You did the same in Cleveland and Cincinnati. Then, I am told, you built two universities in Ohio, and now the professors can hardly live on the salary you pay. The consequence is that these schools, colleges, or universities must run down. There is no place in the whole world where knowledge can make so much money as in America; therefore your best men will not become teachers or professors, simply because they can make more money out of something else; and they naturally apply their talent and ability where it pays the best. No man will engage in an educational course of life, for life, on a salary of \$1,200 or \$1,500 a year, when he, by applying the ability in some other pursuit, can make \$4,000 or \$5,000 a year. Hence, you have no first-class professors in all America; but you have instead first-class business men, first-class mechanics, and managers of large and colossal establishments."

**KANSAS.**—Kansas does not appear to be satisfied with mediocrity in matters of education. She has an excellent school law and an increasing school fund. A State Normal School is in operation at Emporia, and Teachers' Institutes are being organized in different parts of the State.

There are in the State, School Districts, 848; school children reported, 45,441; number attending school during the past year, 26,000; number of teachers employed, male, 247—females, 652; average price paid the former, \$36.84; the latter, \$24.04; amount raised by districts for school purposes, \$107,298.41; value of school-houses, over \$122,000.

There are in Southern Kansas seven colleges—six too many. Five are in operation. The State University, at Lawrence, is nearly completed. It will soon be organized, and opened for students. It has an endowment of 46,000 acres of land, and \$15,000 as an initiatory investment.

The Agricultural College movement, under government auspices, is going on with considerable energy. During the month of November, 1885, two thousand five hundred acres were located at Humboldt, Kansas, with Agricultural College scrip.

**MICHIGAN.**—Michigan State University, at Ann Arbor, seems destined to take the lead of American institutions in number of students. At present the attendance is 1,179. It is well endowed by the State, and the charges for tuition are merely nominal.

—The Detroit Board of Education, having under consideration the necessity of increasing the compensation of teachers, have drawn up the following table of salaries paid by Western cities:

|            | Average No. of scholars, both sexes. | No. of teachers. | Average No. taught by every teacher. | Average salaries of male teachers. | Average salaries of female teachers. | No. of male teachers. | No. of female teachers. |
|------------|--------------------------------------|------------------|--------------------------------------|------------------------------------|--------------------------------------|-----------------------|-------------------------|
| Cincinnati | 17,801                               | 379              | 47                                   | \$1,500                            | \$475                                | 63                    | 319                     |
| Cleveland  | 9,288                                | 113              | 47                                   | 1,200                              | 405                                  | 15                    | 98                      |
| Toledo     | 1,875                                | 43               | 44                                   | 1,100                              | 423                                  | 6                     | 34                      |
| Chicago    | 12,688                               | 240              | 53                                   | 1,450                              | 425                                  | 23                    | 217                     |
| Louisville | 6,320                                | 142              | 48                                   | 1,166                              | 466                                  | 25                    | 107                     |
| Detroit    | 5,431                                | 86               | 63                                   | 993                                | 385                                  | 8                     | 78                      |

\* Or 56 by throwing aside half of the half days.

This board has taken energetic measures to meet the demand for more room. New buildings are to be erected immediately. The School Library has received an addition of nearly four thousand volumes, and the schools generally are in a prosperous condition.

**TENNESSEE.**—On January 22d the Free-School Bill was defeated in the Senate by a vote of nine to eight. There is no hope of its passage during the present session.

#### SOUTHERN STATES.

**SCHOOLS FOR THE FREEDMEN.**—The consolidated report of the Freedmen's Bureau shows that there are at present 681 schools, with 1,240 teachers, and 65,334 scholars, in the Southern States. There are 67 schools, with about 7,000 scholars, in North Carolina. In the District of Columbia and the surrounding stations there are 45 schools, with 100 teachers, and about 4,000 pupils. In Louisiana the schools for colored children have all been suspended, for want of funds. The agent of the Freedmen's Bu-

rean in Alabama writes that he has established a school for the poor whites.

**MARYLAND.**—Hon. Henry Barnard, LL.D., the veteran educator, has been called to take charge of St. John's College, at Annapolis.

The legislature of Maryland has just passed a bill in aid of St. John's College, by which \$35,000, in annual instalments of \$15,000, are appropriated from the State Treasury to aid in reorganizing this venerable institution.

**GEORGIA.**—The late constitutional convention ordained that the State University should be adequately endowed. To this the Governor, in his message, referred, and anxiously pre-posed the matter upon the legislature: "Located in a healthy region, the University of Georgia can, and ought to be made, more than ever the cherished object of the affections of her people." There is now a prospect that the endowment will be completed as soon as possible.

**WEST VIRGINIA.**—Governor Boreman, in his message, presents very distinctly the defects existing in the school system of this State. The want of competent teachers throughout the State is seriously felt, and "is one of the greatest difficulties in the way of putting into successful operation the free-school system, and, indeed, of keeping up primary schools of any character whatever." Normal schools are recommended as the only means of removing the difficulty. The Governor concludes by invoking the fostering care of the legislature over the free-schools.

—The Board of Education of Wheeling have ordered the erection of several new school buildings. The schools are in good condition.

#### EUROPE.

**ITALY.**—The Minister of Education has published the following particulars regarding the seminaries in the kingdom: The total number of them is 260, 208 of which are elementary schools. There are 18,174 pupils, 7,926 of whom are boarders, and 8,429 are dressed in ecclesiastical costume. During the last five years eighty-two seminaries were closed. The government now purposes to take all the revenues of these establishments into its own hands, and to reduce the number of seminaries to that of the dioceses.

**RUSSIA.**—The emancipated serfs, in a district of the government of Iver, are about to establish public schools in all the villages of the different parishes. In other parts of Russia, progress in this respect is rather slow; but there is every reason to believe that the enjoyment of liberty will more and more rouse the mental ambition of the peasantry.

SCOTLAND.—The Edinburgh Courant has the following characteristic letter from Thomas Carlyle to Mr. Adam White, who proposes to introduce the teaching of natural history into boarding-schools and private families: "For many years it has been one of my constant regrets that no schoolmaster of mine had a knowledge of natural history, so far, at least, as to have taught me the grasses that grow by the wayside, and the little winged and wingless neighbors that are continually meeting me, with a salutation which I can not answer, as things are. Why didn't somebody teach me the constellations, too, and make me at home in the starry heavens, which are always overhead, and which I don't half know to this day? I love to prophesy that there will come a time when, not in Edinburgh only, but in all Scottish and European towns and villages, the schoolmaster will be strictly required to possess these two capabilities (neither Greek nor Latin more strict), and that no ingenuous little denizen of this universe be thenceforward barred from his right of liberty in those two departments, and doomed to look on them as if across grated fences all his life! For the rest, I cannot doubt but, one way or other, you will, by and by, make your valuable, indubitable gift available in Edinburgh, either to the young or older, on such conditions as there are; and I much recommend a zealous and judicious persistence till you do succeed. Believe me, yours very sincerely, T. CARLYLE."

THE NATIONAL ASSOCIATION OF SCHOOL SUPERINTENDENTS.—The National Association of State and City School Superintendents met in Washington, D. C., on the 6th of February. Massachusetts was represented by Mr. Northrop, State Agent of the Board of Education, and Mr. Hubbard, Superintendent of the Schools of Springfield; Vermont, by Mr. Adams; New Jersey, by Mr. Harrison, State Superintendent, and Mr. Sears, of Newark; Pennsylvania, by Mr. Coburn; Ohio, by Mr. White, State Superintendent, Colonel De Wolfe, of Toledo, Mr. Mitchell, of Columbus, and Mr. Cowdery, of Sandusky; Illinois, by Mr. Bateman; Michigan, by Mr. Horsford, State Superintendent, and Mr. Dety, of Detroit; West Virginia, by Mr. White.

Mr. Richards, of Washington; Mr. Payne, of Virginia; Mr. Fiske, of North Carolina; Prof. Davies and Dr. Lambert, of New York, and many other friends of education were present.

It was thought by some that, like too many educational meetings, this would prove to be only another phase of the Mutual Admiration Society; but such practical men as the superintendents of Vermont, Pennsylvania, and Ohio are not likely to misspend time; and the action of the meeting was directed so as to make it eminently successful.

The President, after the old-fashioned way in vogue in Boston, was somewhat prolix when calling on and referring to persons; but the members meant business, laudably exhibiting that if they were not fitted for their offices when elected or appointed, they were anxious to prepare themselves for performing their duties acceptably and well.

Several papers were read and discussed in a sensible, familiar manner, questions being asked so as to bring out practical bearings. In this way Mr. Coburn, of Pennsylvania, was lead to make many interesting and valuable statements concerning the character and working of the school system of Pennsylvania—in what respects he thought it might be improved, and how applied in other States. He thought it would not, on the whole, work well in New York; nor would the system of New York answer for Pennsylvania. The opinion of the convention was, that different States required different systems or modifications of them. Mr. Coburn's paper was pointed and practical. It should be in the hands of every superintendent.

Mr. White, of Ohio, read an elaborate paper on the establishment of a national bureau of education.

The convention seemed to be in favor of such a bureau, provided it be of limited controlling power; it should be advisory merely.

The paper of Mr. White was highly commended for its literary, logical, and especially its business character.

Mr. Van Bokkelen, with his usual enthusiasm, expressed his opinions on uniformity in State and national education. His plans were thought to be somewhat visionary, and to depend upon more stringent laws than most of the superintendents thought desirable—tyranny, even in a good cause, being, at least, a bad example. This was evidently Mr. Harrison's opinion, as expressed in a very correct review of some of the defects of educational systems.

Mr. Bateman also expressed similar opinions in his excellent paper on a model system.

Mr. Philbrick, of Boston; Mr. Bulkley, of Brooklyn, and Mr. White, Secretary of the Board of Education of Massachusetts, were unavoidably absent. The papers which they were to read were consequently deferred to the next meeting of the Association, to be held in Indianapolis.

The meeting was presided over and conducted with pre-eminent ability and courtesy; and its conclusion was regretted by all who attended.

Of the benefit to be derived from such meetings, it is scarcely necessary to speak.

The leading men of the various sciences and arts have long found it of advantage to meet and discuss the various questions that arise in their respective pursuits, and why may not Education be advanced in like manner?

## SCIENCE AND ART.

**NEW MEXICAN DISCOVERIES.**—The presence of a man on the Mexican throne who is a patron of science and art, though personally disagreeable to America, is certainly useful to the progress of knowledge. He sends out explorers to all parts of the country, who find many indications of that wonderful wealth and intelligence which abounded in Mexico ages ago, in a degree which has not been approached there for centuries. The last discovery, in the midst of a large forest, is the ruins of a city built and inhabited by the aborigines long before the time of Cortez. This city is of considerable extent, surrounded by a stone wall five yards in thickness and ten feet high, and having its streets paved with polished stone. Many fine specimens of architecture were discovered; among them a magnificent palace, supposed to have been the residence of some Indian king, and also statuary and paintings of a superior character, monuments, reservoirs, aqueducts, canals, and many concomitants of a civilized and educated condition of society.

—Dr. Charles Clay, of Manchester, England, has a portrait of Shakspeare, which he claims to have been taken from life by a contemporary of the great dramatist, and which is far more satisfactory than the celebrated Chandos picture. An English journal says of it:

"The face is thoughtful and slightly touched with melancholy, the eyes being remarkably expressive and pleasing. Many critics have objected to the Chandos portrait on account of its foreign cast of features. Here we have the type of a true Englishman, of the true Elizabethan period. There are no earrings, as in Chandos' picture, the clothing being simple and unadorned; the collar is without strings, less in size, and where it meets in front shows a portion of the throat below the beard; the collar itself is not so stiff as in other portraits. If we might venture on an opinion from the luxuriance of the hair, which is of a rich brown, tinted with auburn, this picture must have been painted at an earlier period of life than the Chandos portrait. The face is nearly full, the hair higher over the forehead, and falling partially and gracefully over the collar on the left side. The portrait has been carefully relined, and is in an old-fashioned frame of the period."

—A brass made of sixty parts copper, thirty-eight parts zinc, and two parts iron, may be forged at a red heat, and will support a "breaking weight" of twenty-seven tons per square inch. This has been used with success for bolts in the fire-boxes of locomotives.

—The famous German chemist, Mitscherlich, at the conclusion of a paper discussing his observations of the "spectral lines" given by various non-metallic bodies, states that he believes all the so-called non-metallic elements to be compounds.

—A beautiful variety of ornamental glass has been devised by M. Pelouze: 250 parts of white sand, 100 of carbonate of soda, 50 of limestone, and 40 of bichromate of potash are fused together. A glass is thus formed of a rich green color, filled with golden spangles.

—The editor of the British Journal of Photography speaks in terms of high approval of the rectified wood spirit, or methylic alcohol, as a solvent for gun-cotton in making collodion, in place of the usual mixture of alcohol and ether. In these times of dear alcohol this is an important matter to photographers.

—In 1777 average life in France did not exceed twenty-three years; in 1798 it had risen to twenty-six years, three months; in 1836 it was thirty-three years; and at present it has reached the very high figure of thirty-nine—an increase of six years within a period of twenty-eight years.

—An arctic expedition is being organized in Prussia. Three vessels will be fitted out, their crews to consist of scientific men from the Prussian schools.

—The French emperor is organizing a scientific exploration of Cambodia, from the source of the Mer Kon to Thibet, where this river apparently disappears. Most of these regions are unknown, although the ruins discovered in the known districts would seem to attest the existence in former ages of a high state of civilization there.

—A Finland newspaper mentions a stone in the northern part of Finland which serves the inhabitants instead of a barometer. This stone, which they call *ilmokiu*, turns black or blackish gray when it is going to rain; but on the approach of fine weather it is covered with white spots.

—Dr. Calvert, in his last "Cantor Lecture," gives a recipe for cleaning silver articles without the troublesome and destructive use of polishing powders. The articles should be plunged for half an hour in a solution made up of one gallon of water, one pound hypo-sulphate of soda, eight ounces sal-ammoniac, and four ounces of aqua-ammonia or hartshorn.

**A NEW PROCESS OF PHOTOGRAPHING ON WOOD.**—For decorative purposes, it is



said, it will be advantageous, as pictures can be transferred to panels, ceilings, or any surface that may require ornamentation. Graining can by this new process of photography be multiplied, and transferred to a surface with accuracy. For household ornamentation, and for decoration of public edifices, this method of applying photography is said to be economic in its application and artistic in its effects, while it is as durable as the material on which it is transferred.

—An aerolite fell at Shergotty, India, on the 25th of August last. A native witness states that about 9 A. M. a stone fell from the heavens, accompanied by a very loud report, burying itself knee-deep. The sky was cloudy at the time, and of a murky color; the air calm, and no rain.

The stone has been forwarded to the Asiatic Society of Bengal.

**DIAMOND.**—Contrary to the usual opinion that the diamond is produced by the action of intense heat on carbon, Herr Goepfert asserts that it owes its origin to the action of aqueous agencies. His argument is based upon the fact that the diamond becomes black when exposed to a very high temperature. He considers that its Neptunian origin is proved by the fact that it has often on the surface impressions of grains of sand, and sometimes of crystals, showing that it has once been soft.

**SEWER RATS KILLED BY ELECTRICITY.**—A new and curious use of electricity is now made in the sewers of Paris. There, as is well known, the rats swarm by millions. Wires one hundred metres long, insulated from the ground by glass feet, and

connected with a strong galvanic battery, are placed in these subterranean walks. Little pieces of roast meat are attached to the wires at short distances, and the rats, nibbling at the bait, call down upon themselves the galvanic shock with terrific power. Death is instantaneous. The bait remains, to destroy other victims.

—Numerous remains of the dodo have recently been found in a morass in the island of Mauritius. A very complete series of the bones of this remarkable bird are now in the hands of Professor Owen.

**OZONE.**—A very important memoir has recently been published by M. J. L. Soret, on the density of ozone. He sums up our actual knowledge of the volumetric relations of this body as follows: first, Ordinary oxygen diminishes in volume when ozonized—that is, when a part of it is converted into ozone, by electricity, for example; second, When oxygen, charged with ozone, is treated with iodide of potassium and other oxidizable bodies, the ozone disappears without the volume of the gas changing; third, Under the action of heat, oxygen charged with ozone suffers an expansion equal to the volume of the quantity of oxygen that the gas would have been capable of yielding to iodide of potassium. These facts, he says, lead to the supposition that ozone is an allotropic state of oxygen, consisting of a molecular grouping of several atoms of this body. One of the simplest hypotheses in this matter, is that in which the molecule of ordinary oxygen is regarded as formed of two atoms, and the molecule of ozone as formed of three atoms.

## MISCELLANY.

**A PRETTY CUSTOM.**—One of the prettiest of Christmas customs is the Norwegian practice of giving, on Christmas day, a dinner to the birds. On Christmas morning, every gable, gate-way, and barn-door is decorated with a sheaf of corn fixed on the top of a long pole, wherefrom it is intended that the birds shall make their Christmas dinner. Even the peasants will contrive to have a handful set by for this purpose; and what the birds do not eat on Christmas day, remains for them to finish at their leisure during the winter.

—“Ashland,” so long the home of Henry Clay, has been purchased by the trustees of the Kentucky University for \$90,000. The farm contains about three hundred and twenty-five acres of the best land in the Blue Grass region. The Lexington Observer says: “The Kentucky Agricultural School, which is under the patronage of the State, as well as other schools of the University, will be established at Ashland,

and it is proposed to begin the improvements on a most magnificent and extended scale—one that will do credit to our State, and serve as a monument to the memory of Mr. Clay.”

**HONESTY IN A HURRY.**—An Irishman, having accidentally broken a pane of glass in a window, was making his way out of sight; but, unfortunately for Pat, the proprietor stole a march on him, and having seized him by the collar, exclaimed:

“You broke my window, fellow.”

“Agh, an’ sure I did,” replied Pat, “an’ be jabers, didn’t you see me runnin’ home for money to pay for’t, ye spalpeen?”

**A CURIOUS FACT.**—The finest orange-trees in Europe, in the superb collection at Dresden, were brought as ballast, in the shape of mere blocks of timber, without roots or branches, in the hold of a German vessel, and found their way to Saxony. Some curious gardener, anxious to know

what plant furnished this new wood, planted them, but, unfortunately, mistook the upper end for the lower, and thus actually turned the poor mutilated tree upside down. Yet, in spite of this early mutilation, the long sea-voyage, and their subsequent cruel treatment, they have grown and flourished beyond all other orange-trees on the continent.

—Insects must generally lead a jovial life. Think what it must be to lodge in a lily! Imagine a place of ivory and pearl, with pillars of silver and capitals of gold, all exhaling such a perfume as never arose from a human censer! Fancy again the fun of tucking yourself up for the night in the folds of a rose, rocked to sleep by the gentle sighs of summer air, and nothing to do when you wake up but to wash yourself in a dew-drop and fall to and eat your bed-clothes.

**HOME INFLUENCE.**—"We shall never know till we are ushered into eternity," writes a living author, "how great has been the influence which one gentle, loving spirit has exercised in a household, shedding the mild radiance of its light over all the common events of daily life, and checking the inroads of discord and sin by the simple setting forth of that love which 'seeketh not her own,' but which 'suffereth long, and is kind.'"

—The Falls of St. Anthony, in Minnesota, are rapidly undergoing a change. During the spring of 1859 they receded about two hundred and fifty feet to the middle of the river, and nearly one hundred and forty feet further the next spring. It is not improbable that in a few years they will be destroyed altogether, leaving nothing behind but a long reach of rolling, tumbling rapids.

—General Milroy has received, at Nashville, a collection of human remains found in ancient graves in Wilson County, Tennessee. They were taken from rough stone coffins, made of slabs put up in the shape of a box without cutting or hewing, and none of them exceeded twenty-four inches in length, the average being fifteen or eighteen inches. There are acres of these graves at different points, and there is not a large skeleton to be found.

—Montana, which was organized as a territory only about two years ago, now contains some thirty thousand inhabitants. The recent settlers are hardy, industrious, enterprising, and intelligent, and consist largely of families who will make the territory their future home. During the past year \$16,000,000 have been taken from the mines, and the revenue tax paid to the Government was \$1,000,000.

—At Acapulco, the pretty peasant girls have an ingenious device for selling necklaces made of shells, principally on the

days when steamers arrive. Handing you a necklace, they say: "Me give you a present, señor," and then retire with a low-courtesy: returning, however, in a few moments, they say, sweetly, "You give me present, señor, of quarter dollar," which you do at once, unless you have a heart of stone.

—"Pray, sir," said a judge, angrily, to a blunt old Quaker, from whom no direct answer could be obtained, "do you know what we sit here for?" "Yea, verily, I do," said the Quaker, "three of you for four dollars each day, and the fat one in the middle for four thousand a year."

—Plain Anglo-Saxon words—short words at that—are the strongest and most expressive. Words of Latin derivation are by many deemed the most elegant; but if one would cultivate a terse, vigorous style, let him make himself familiar with the shorter words of his mother tongue.

—A Paris butcher has obtained authority to open a shop for the sale of horseflesh, on the condition that he will construct a special slaughter-house for the horses, the flesh of which is to be sold as food. The slaughter-house will be placed under the superintendence of an inspector specially appointed for that purpose. The opening of the shop is to be celebrated by a grand popular banquet, at which horse-meat will form the principal ingredient of the dishes.

**PHARAOH'S SERPENTS.**—Dr. Littlejohn, of Edinburgh, warns the public against the use of Pharaoh's serpents," as they are called. These toys are a compound of sulpho-cyanide of mercury. The inhalation of some of these products is highly dangerous—viz., cyanogen, sulphurons and sulphuric acids, bisulphide of carbon and mercury, in vapor. The mass left after combustion is organic matter called "mellor."

—Among the funds still remaining in the hands of the corporation of London is the sum of two hundred pounds a year, left in trust "to burn heretics."

—It is not by mere study, mere accumulation of knowledge, that you can hope for eminence. Mental discipline, the exercise of the mind, the quickening of your apprehension, the strengthening of your memory, the forming of a sound, rapid, and discriminating judgment, are of even more importance than the store of learning.

—The Rev. Dr. B—, while introducing to the audience Rev. Dr. S—, the famous missionary from India (his home by birth), concluded his remarks with the following left-hand compliment: "He comes to you from that land where every prospect pleases, and only man is vile." The modest missionary arose, and blushing reuered his thanks amid the irrepressible mirth of the audience.

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Information of Teachers will be furnished, which shall embrace the following particulars: Opportunities for education; special qualifications for teaching; experience, where, and in what grade of schools; references and copies of testimonials; age; religious preferences; salary expected; specimen of candidate's letter, and sometimes a photographic likeness.

Unless otherwise advised, we nominate several candidates, and thus give opportunity for good selection.

Those who seek teachers should state explicitly what they will require of the teacher, what salary they will pay when the teacher must be ready, &c., &c. Too full particulars cannot be given.

Principal, and School Officers, are requested to give early notice of what Teachers they may want.

For Terms, &c., see Circular.

## Teachers' Bulletin.

Teachers who wish positions should send for "Application Form." The MONTHLY is taken by the leading Principals and School Officers in the country, hence a representation in this Bulletin is most efficient.

### Ladies—English, Mathematics, French, Latin, Drawing, etc.

450—Grad. Van Eps Inst.; expr. 7 yrs.; English  
Maths., Sciences, Literature, French, & Draw'g; Episc'n.  
451—Grad. Troy Sem.; expr. 4 yrs.; Eng., Maths.,  
Latin & French; Quaker; \$300.

452—Grad. Cortland Acad.; expr. 6 yrs.; English,  
Maths., Latin, Sing. & Rud. French; Bapt.; \$300 & Home.

453—Grad. Cortland Acad.; expr. 5 yrs.; English,  
Maths., G'tron., Sing. & Rud. Piano; Bapt.; \$300 & Home.

455—Grad. Oread Inst.; Eng. & Maths.; Bapt.; \$300.  
456—Grad. Meridian Inst.; expr. 1 yr.; Eng., Maths.  
& Latin.

457—Grad. Oneida Sem.; expr. 2 yrs.; Eng., Maths.,  
French, Latin & Drawing; Baptist.

458—Ed. Miss Haines; expr. 1 yr.; Eng., Gymnast'c.  
& Rud. Piano & Singing; Episcopalian.

460—Grad. Utica Free Acad.; expr. 1 yr.; English,  
Maths. & French; Presbyterian; \$20 & Home.

461—Ed. Greenfield H. Sch.; expr. 10 yrs.; Eng.,  
Maths. & French; Congregational.

462—Ed. Union Hall Sem.; expr. 1 yr.; English &  
Maths.; \$400.

463—Ed. Spring Hill Sem.; expr. 8 yrs.; English &  
Maths.; Presbyterian; \$300.

464—Ed. Private Schs.; expr. 7 yrs.; Eng., Maths.,  
Latin & Eloquence; Presbyterian; \$300 & Home.

465—Grad. Fort Edward Inst.; Eng., French, Piano  
and Singing.

466—Grad. Bangor H. Sch.; expr. 2 yrs.; English,  
Maths., Latin & French.

467—Expr. 3 yrs.; Eng., Maths., French & Rud.  
Piano; Episcopalian; \$200 & Home.

468—Ed. Miss; expr. 3 yrs.; Eng., Maths., French,  
Drawing & Rud. Music & Latin. Will go to California.

469—Grad. Lawrence Acad.; expr. 4 yrs.; English,  
Maths., French & Drawings; Congregational.

470—Ed. Pub. Sch.; Eng.; Episcopalian; \$300.

471—Grad. Rockland Inst.; expr. 7 yrs.; English,  
Maths., Latin & Rud. Music & Drawing; Methodist; \$200  
and Home.

472—Ed. England; expr. 9 yrs.; Eng., French and  
Spanish; Episcopalian.

473—Grad. Ohio Fem. Coll.; expr. 8 yrs.; English,  
Maths. & Singing; Presbyterian.

474—Grad. Hudson Fem. Acad.; expr. 1 yr.; Eng.  
& Maths.; \$300.

475—Expr. 3 yrs.; Eng. & Maths.; Catholic.

476—Grad. Troy High Sch.; expr. 3 yrs.; Eng. &  
Maths.; Methodist.

477—Ed. Meriden Inst.; expr. 4 yrs.; Eng., Maths.  
& Latin; Congregational; \$400.

478—Ed. Pa.; expr. 1 yr.; Eng.; Episcopalian; \$10  
& Home.

479—Ed. N. Y.; expr. 6 yrs.; Eng., Draw'g. & Rud.  
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To the Publisher of the *THE NEW YORK TRIBUNE*.

Dear Sir—In November last, I wrote an article headed, "Ho, for Tennessee," which was a description of the Cumberland Table. It was published in the *New York Daily Tribune* of Nov. 25th, and again in the *Semi-Weekly* issue of Nov. 28th. The object of the article was to call the attention of your readers to the advantages of that location, more particularly of men of small means, and those who were suffering from ill health, two classes which my benevolence led me to wish to benefit. I did not write that article because I had or expected to have land for sale, but because I believed many would thank me for the information thus communicated; yet, although I had no land for sale, I knew of those who had, at a moderate price, and perfect title, and was convinced that every man who bought it might be benefited thereby. Not feeling justified in withholding my information from the public, I prepared and inserted an advertisement in three of the leading newspapers in New York city, in which I promised to give definite information concerning the Cumberland Table of Tennessee, to any person who should apply to me for it personally or by letter. That advertisement appeared several times in each of the journals alluded to, of which *The N. Y. Tribune* was one. As a matter of justice to your own journal allow me to state the result: from the readers of each of the other two alluded to, I had two applications; from the readers of *The Tribune*, I have had so many that I found it utterly impossible to write answers to them, even by devoting my time from early morning until midnight of each day, six days in the week, and that I might fulfill the promise made in my advertisement, was compelled to print nearly all that I desired to say to applicants; by which course, with unremitting industry on my part, I have been able to fulfill my promise. Applications come to me every day from readers of *The Tribune*, from Maine to Minnesota, inclusive, and the interest which has been excited does not seem to abate in the least degree. If the *New York Tribune*, viewed as an advertising medium, for such an object, has so great advantages over others, I think it but fair and just to yourself, and the public, that it should be made manifest; you are therefore at liberty to make any use of this communication which you think proper, as it is simply a statement of facts made voluntarily for the benefit of all concerned.

—Yours very respectfully,  
W. W. POWELL,  
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# Worship in the School-Room.

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**Dear Sir,**—I present you specimen pages of the above-named *Manual of Devotion*, which is now in press. The work has grown out of the wants felt in my own experience of ten years as a teacher. In addition to the combination of Praise, Prayer, and the Study of God's Word, each lesson presents at its commencement a topic which is the key-note of the entire service.

Allow me briefly to call your attention to three things in regard to the book:—**Its Object ; Its Plan ; and the Mode of Using it.**

**I.—The Object.** (a) is to secure individual attention and united expression throughout the entire service; (b) to suggest important *doctrines* and duties in such a manner as to arrest the attention and awaken the interest of the young; (c) to familiarize the minds of youth with the teachings of divine truth on all the great questions of life, and with the richest and sweetest treasures of sacred song; (d) to aid in preparing the sons and daughters of our institutions of learning more fervently and effectively to join in the devotions of home and of the great congregation. In one word, its object is to aid in *educating* (both by instruction and by development,) each student, as an accountable religious being, in the performance of his highest duty, and the enjoyment of his greatest happiness.

**II.—The Plan.** (a) In preparing the book, the first step was to form an outline of the great Doctrines and Duties of Religion, as these regard God and Man; giving prominence to such as especially claim the attention of youth, and tend to shape the course of life. (b) Selections of Scripture were then made, enforcing and illustrating the given topic by precept, narrative, &c. These selections were afterwards arranged with a view to make them suggestive of the various bearings of the subject as far as practicable. (c) After that, appropriate psalms and hymns were chosen, keeping constantly in view the combination of strength and beauty, so that the choicest spiritual and poetical productions of our language, in youth might be treasured up for counsel and comfort in after life. (d) The adaptation of music to the hymns was considered a most important and difficult matter: several leading composers were consulted, and the final arrangement and adaptation of the music to the words was placed in the hands of T. J. Cook, of New York, whose name is a guarantee for the judicious execution of the work. (See Musical Introduction in the Book, by Mr. Cook.) (e) In view of the fact that many young teachers might hesitate, unaided, to lead their pupils in prayer, each page of the lesson was placed in the hands of some earnest Christian educator, and after its perusal, a prayer was written by him, adapted especially to that particular lesson. We have thus more than 250 leading minds, of all evangelical churches in our loyal land, participating in the service of prayer, thus securing a variety, freshness and adaptation which could be obtained in no other way.

**III.—The Mode of Use.** (a) While the book is not arranged by any formal division of days, months or times, it furnishes material for more than every school-day in the year. (b) Each pupil should have a copy of the *lessons*, (the book will be bound in two editions, the *lessons without the prayers* for the pupils.) The teacher proceeding in course, or selecting, or calling on a pupil to select, a lesson for the day, all join in singing the psalm or hymn chosen. The teacher will then read the first verse of the Scriptures, one-half the school read the second verse *in concert*, the other half read the third verse in like manner and so around. (c) The teacher, (all bowing on their desks,) leads in prayer, using in whole or in part the form prepared, or directing the service in his own language. A Sabbath lesson might be assigned for study on that day, and at least a portion of it memorised.

Having tried as briefly as possible to explain the Object and Plan of the work, with the Mode of Using it, I would be happy to send you a specimen copy of the complete work (making over 500 pages, with prayers included,) with a view to its introduction into your institution. Should you order a copy for examination, I will enclose a circular with it, proposing *special terms for its introduction*. For a single copy, by mail, postage pre-paid, enclose \$1.85. In case you wish to order several copies by express, enclose \$1.50 for each. The retail price of the book, complete, is \$2.50; the lessons alone retail at \$1.50.

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For information, in regard to terms for **Introduction**, address

Rev. W. T. WYLIE,



1

**A**LL people that on earth do dwell,  
Sing to the Lord with cheerful voice;  
Him serve with fear, His praise forth tell,  
Come ye before Him and rejoice.

2 Know that the Lord is God indeed;  
Without our aid He did us make;  
We are His flock, He doth us feed,  
And for His sheep He doth us take.

3 Oh, enter, then, His gates with praise;  
Approach with joy His courts unto;  
Praise, laud, and bless His name always,  
For it is seemly so to do.

4 For why? the Lord our God is good,  
His mercy is forever sure;  
His truth at all times firmly stood,  
And shall from age to age endure.  
*Sternhold—Hopkins.*

2

**T**HEE we adore, eternal Lord!  
We praise Thy name with one accord;  
Thy saints who here Thy goodness see,  
Through all the world do worship Thee.

2 To Thee aloud all angels cry,  
The heavens, and all the powers on high:  
Thee, Holy, holy, holy King,  
Lord God of hosts, they ever sing.

3 Th' apostles join the glorious throng;  
The prophets swell th' immortal song;  
The martyrs' noble army, raise  
Eternal anthems to Thy praise.

4 From day to day, O Lord, do we  
Highly exalt and honor Thee!  
Thy name we worship and adore,  
World without end, for evermore.

*Unknown.*

**W**HAT is man, that thou art mindful of him? and the son of man, that thou visitest him? For thou hast made him a little lower than the angels, and hast crowned him with glory and honor.

2 O Lord, open thou my lips: and my mouth shall show forth thy praise.

3 Evening, and morning, and at noon, will I pray, and cry aloud: and he shall hear my voice.

4 Thus will I bless thee while I live: I will lift up my hands in thy name. My soul shall be satisfied as with marrow and fatness; and my mouth shall praise thee with joyful lips.

5 All the earth shall worship thee, and shall sing unto thee; they shall sing unto thy name.

6 It is a good thing to give thanks unto the Lord, and to sing praises unto thy name, O Most High;

7 To show forth thy loving kindness in the morning, and thy faithfulness every night.

8 O Lord, thou art my God: I will exalt thee, I will praise thy name: for thou hast done wonderful things; thy counsels of old are faithfulness and truth.

9 This people have I formed for myself: they shall show forth my praise.

10 In the Lord shall all the seed of Israel be justified, and shall glory.

11 Therefore the redeemed of the Lord shall return and come with singing unto Zion; and

12 Herein is my Father glorified, that ye bear much fruit; so shall ye be my disciples. If ye keep my commandments, ye shall abide in my love; even as I have kept my Father's commandments and abide in his love.

13 Father, I will that they also, whom thou hast given me, be with me where I am; that they may behold my glory which thou hast given me: for thou lovedst me before the foundation of the world.

14 He that overcometh shall inherit all things; and I will be his God, and he shall be my son.

15 And he carried me away in the spirit to a great and high mountain, and showed me that great city, the holy Jerusalem, descending out of heaven. And I saw no temple therein; for the Lord God Almighty and the Lamb are the temple of it.

16 And the city had no need of the sun, neither of the moon, to shine in it: for the glory of God did lighten it, and the Lamb is the light thereof.

17 And the nations of them which are saved shall walk in the light of it: and the kings of the earth do bring their glory and honor into it:

18 And the gates of it shall not be shut at all by day: for there shall be no night there.

19 And they shall bring the glory and the honor of the nations into it.

20 And there shall in no wise enter into it

## Prayer.—Lesson I.

**A**LMIGHTY GOD, we adore and bless Thee as the Author of our being, and the Giver of all our mercies. We acknowledge Thee as God over all, blessed forever more. Thou art worthy to be praised, and loved, and had in reverence of all Thy creatures. Thou art glorious in Thy holiness: fearful in Thy praises: doing wonders. Heaven and earth are full of the majesty of Thy glory.

We praise Thee for what Thou art in Thyself, and for the revelation Thou hast made to us of Thy glorious perfections in the person and work of Thy blessed Son, our Saviour, Jesus Christ.

We thank Thee for that blessed Word in which this revelation is contained. Teach us to love that Word. Help us to understand it. May we make it our guide, and walk in the light of it. Open our eyes, that we may behold wondrous things out of Thy law. May it be sweet to our taste as the honey, and the honey comb. May we esteem it more than our necessary food; and rejoice in Thy Word as one who findeth great spoil.

Especially help us to learn from it the purpose for which Thou hast sent us into the world. May we be fully awakened to the important truth, that the great end for which we were created, is that we may know Thee, and love Thee; may glorify Thee, and enjoy Thy blessed presence forever.

Teach us to know that we never can begin to secure this object of our creation till our hearts are changed by Thy converting grace, and we are made new creatures in Christ Jesus. May we seek *first* the kingdom of God and his righteousness, assured that all needful things will then be added.

Lead us to true repentance, and a living faith in Thee. Help us to consecrate ourselves to Thy service and glory. May the language of our hearts continually be, "Lord, what wilt Thou have us to do?" Make us feel that we are not our own, but are bought with a price, and are bound to glorify Thee with our bodies and our souls, which are Thine. Whatsoever our hands find to do, may we do it with our might.

Be Thou our Guardian and Guide. Help us in all our ways to acknowledge Thee, that Thou mayest direct our steps.

May we look not at the things which are seen and temporal, but at those which are unseen and eternal; and whether we eat, or drink, or whatsoever we do, may we do all to the glory of God.

These things we humbly beg, and whatever else Thou shalt see to be convenient for us, through Jesus Christ, our Lord. Amen.

*Richard Newton.*

# OPINIONS OF EDITORS, PASTORS AND TEACHERS IN FAVOR OF THIS WORK.

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A few extracts from notices by those who have seen the plan or proof sheets of the book, as well as from letters received relating to it, may not be out of place here.

One of the **Editors** of the **Chicago Tribune** having seen some of the proof sheets, writes as follows:

"**WORSHIP IN THE SCHOOL-ROOM.**—To show your readers how thoroughly Messrs. SCHERMERHORN, BANCROFT & Co. are taking hold of their mission, and with what enlightened intelligence they are extending its functions, let me state that I looked over the proof sheets of a beautiful forthcoming school volume with the above title, prepared with the greatest care, and by consultation and aid of some of our most distinguished clergymen, and under the authorship of a leading educator,—a School Prayer and Singing Book, to guide and give elevation to the daily devotions of the school room. This will fall cold on the ears and attention of many who are interested in public education, but there are thousands who believe that Christian influences are nowhere more to be coveted than in the school room, and with these the publication of Rev. Mr. Wylie will be adopted with an instant favor that will bless both author and publishers."

The **Principal** of a flourishing New England Seminary, who is well known as the author of some Educational works, writes as follows:

"I will do what I can to bring your book into notice and use, for in so doing I shall subserve the interests of Christian Education."

Another **Minister** writes thus:

"I am much pleased with the plan of your book. With the efforts necessary to introduce your publication into our Schools and Seminaries of learning and elsewhere, I trust, by the blessing of God, your largest expectations will be realized."

The **Principal** of one of the most successful Academies for boys, in Pennsylvania, when contributing a Prayer for the book, closes an accompanying note by saying:

"Wishing you every possible success in your timely undertaking, I beg to be a subscriber, and will order more if required."

From a letter written by a well known **Pastor**, of one of our large city churches, I make the following extract:

"You have my best wishes for success in your present effort, for whatever shall contribute to a more regular, intelligent and devotional reading of God's ever-blessed word must be productive of good."

Another **Clergyman** writes:

"I enclose, according to your request, my contribution to the work you are preparing. Such a work is truly a desideratum, and I trust yours may fully meet the existing necessity."

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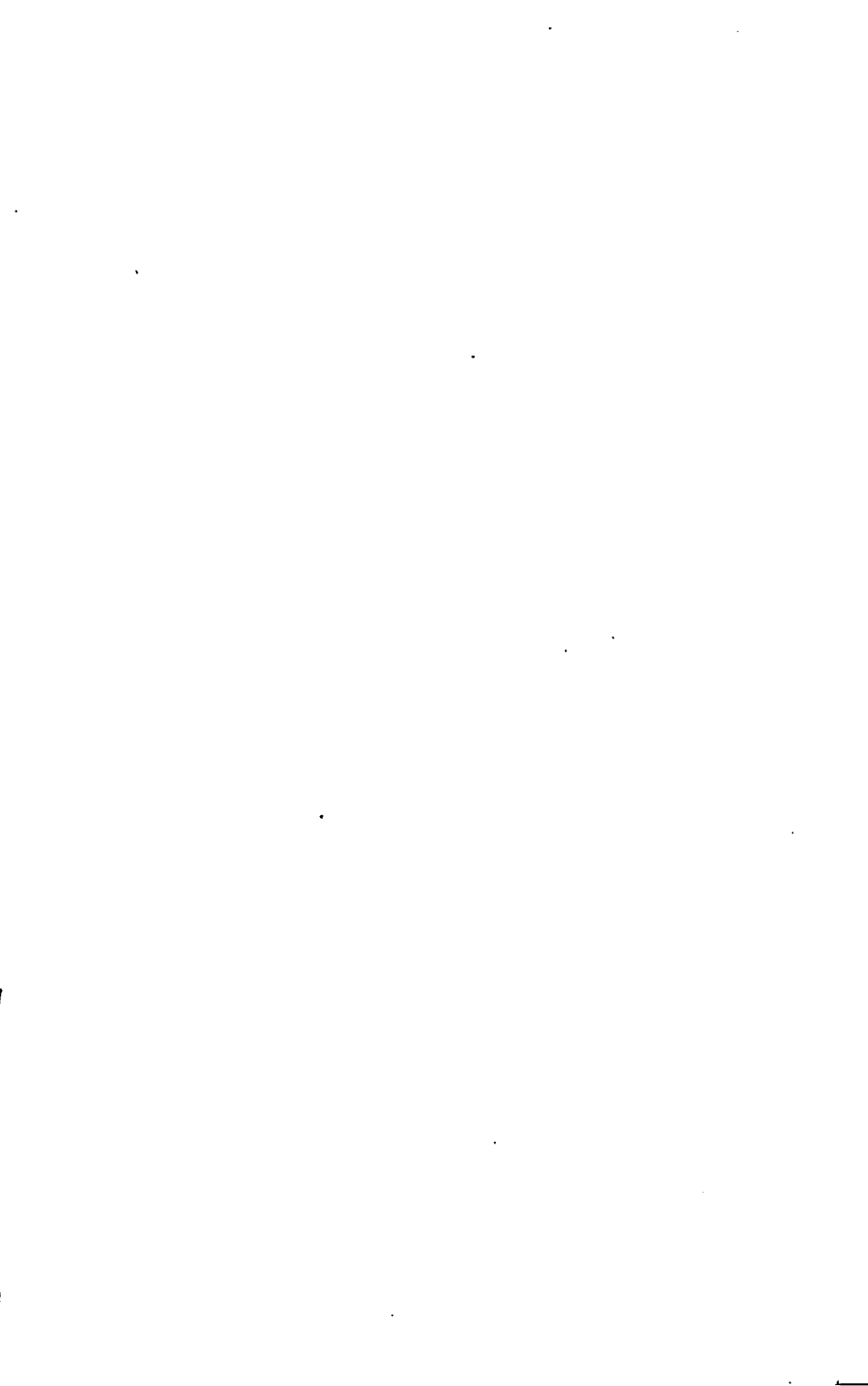
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OHIO NORMAL & TRAINING SCHOOL.

# AMERICAN EDUCATIONAL MONTHLY.

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VOL. III.

APRIL, 1866.

No. 4.

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## THE OSWEGO NORMAL AND TRAINING SCHOOL.

**R**EALIZING the importance of the first few years of study, and believing that they might be made of greater benefit to the majority of students by a more natural system of elementary instruction, Mr Sheldon, of Oswego, determined to effect a radical change in methods of teaching, in the primary schools under his care. In the spring of 1861, the Oswego Board of Education secured, at his recommendation, the services of Miss Margaret E. M. Jones, who, for many years, had been connected with the Home and Colonial Training School of London, in which she had special charge of the Methods of Elementary Instruction. Under her direction a school was organized, having for its object the training of teachers for the primary schools of Oswego. This was strictly a *training* school, its scope including no instruction in the branches of study pursued in Normal Schools, but limited to the theoretical discussion of methods of teaching and the practical application of those methods in primary schools organized for that purpose.

In the spring of 1862, graduates of this school were established in charge of the primary schools of Oswego. At the end of the year pupils of these schools would be ready for transfer to the intermediate, and it was resolved to extend the training of teachers to the subjects embraced in that department. This was done under the direction of Professor Herman Krusi, who had long been connected with the Intermediate Department of the Training School of London.

The enterprise had thus far been entirely a local one, undertaken to supply a local need and supported by the citizens of Oswego alone. But the popularity of the methods adopted attracted so many pupils from other parts of the country—many of whom were teachers of experience and established reputation—that the Board of Education determined to place the school on a more extended basis, and in a position of greater usefulness than was at first proposed—to place it, in short, under the patronage of the Educational Department of the State. The attempt was made, and was partially successful. In the winter of 1863 the Legislature made an appropriation of \$3,000 a year for two years, to aid in the support of the Training School, pending the demonstration of its usefulness

and the practicability of its methods. In 1865 it was incorporated as the Oswego Normal and Training School, and its annual appropriation was increased to \$6,000—on condition that the Board of Education, or citizens of Oswego, should provide a suitable building for the accommodation of the school. This condition was accepted, and complied with by the purchase of a large and commodious edifice, with ample grounds. Our frontispiece presents a view of the building in perspective. Its entire length is 153 feet, its depth 130 feet. It contains full accommodations for six hundred children in the Model and Practicing Schools, and from two hundred and sixty to three hundred pupils in the Normal Department.

The school entered upon a new term on the 28th day of February, with a course of instruction embracing all that is usually taught in Normal Schools, in addition to a thorough course of instruction and training in methods of teaching.

The design of this school is to prepare teachers for their work, and to elevate the standard of teaching by familiarizing its pupils with correct philosophical principles of education and the proper mode of applying them. With this view, much time is devoted to the study of *principles* and *methods*, and to their practical application.

---

## THE CASES OF SUBSTANTIVES IN ENGLISH.

**A**MONG the many disputed points in English grammar, there are few that are more unsettled in our school grammars than the subject of the cases of substantives. The children in some of our schools are taught that there are three cases, Nominative, Possessive, and Objective ; in others, that there is an additional case the Independent ; while some instructors are in favor of stretching the English noun on the rack of Latin declension. The definitions of case, vary also between the two extremes of making it to be a changed form of a word, on the one hand, and on the other hand to be a changed idea in a word.

Now much of this confusion comes from hasty and empirical generalization. In grammar we have certain facts given us, about which there is rarely any dispute. These facts we must classify ; and the best grammarian is the one who classifies the facts in the simplest and most truthful manner. A language is made by the usage of a race ; but that usage is almost sure to follow certain natural laws, and it is the business of the grammarian to discover these laws.

What is case ? The etymology would seem to show that it means a change in form merely. This change does not necessarily take place at the end of a word, for the Celtic languages decline nouns by changing the

initial letter. But this change of form is effected for a purpose ; and that purpose is to indicate, not gender or number or person, but the relation to other words in the sentence. So we may define case to be a change of form in the substantive to mark its relations to other words in the sentence.

Not every kind of relation has a form appropriated to it in any language. This would be well-nigh impossible. The civilized language most copious in cases, the Sanscrit, has only eight—the six cases of Latin, with the Locative and Instrumental. To express the nicer shades of relation, prepositions are indispensable ; but a preposition, with a substantive, does not make a new case.

Now it is evident that in modern English we have three distinct case-forms for pronouns, and only two for nouns. The objective case in nouns is a mere convenience for parsing, and may, perhaps, have some just cause for existing, in the wish to preserve the analogy between nouns and pronouns.

The spirit of the English language is opposed to change in the form of words for the sake of varying their relations. The true English declension and conjugation is by means of auxiliary words, and the few changes in the body of the inflected word are exceptions, or, more properly speaking, relics of the old inflection. The Teutonic languages have all of them fewer inflections than the rest of the Aryan family ; and of the Teutonic tongues, the Anglo-Saxon had among the least. And nearly all these inflections were lost in the interval between the Norman conquest and the revival of English as a literary language, or soon after. The Anglo-Saxon had four cases—Nominative, Genitive, Dative, and Accusative ; and besides these, had some fragments of an Ablative preserved from an older state of the language. Of the terminations used to mark these cases, we have left in modern English the following relics.

1. The Genitive of the first declension singular becomes the modern Possessive in *s* or *es*. This *s* is the more usual sign of the Genitive in the Aryan languages, and is undoubtedly the true original Genitive sign. This *s* has so much power that it has passed over to the Possessive plural also, where no *s* was used by the Anglo-Saxons. This change took place just before the time of Chaucer. The apostrophe used in modern spelling is a relic of the error of the sixteenth century in considering the *s* a contraction of *his*.

2. Of the regular Dative plural in *m*, we have two specimens left in the adverbs *whilom* and *seldom*. The adverbs of place *there* and *where* are the Dative feminine singular of the article and the interrogative. The modern Objectives, *him*, *her*, *them* and *whom*, are in Anglo-Saxon regular Datives.

3. Of the regular Accusative singular we have *twain* from the old Accusative of the numeral *two*. The adverbs *than* and *then* are from the Accusative of the article, and *when* from the Accusative of the interrog-

ative. *Me* and *us* are derived from another root than their nominatives, and are the same in Anglo-Saxon as in English.

4. Besides these, we have still two specimens of the very old Ablative; *why*, from the Ablative of the interrogative; and *the* (from *thy*) in such expressions as "all the more," and "the more the better," where *the* is a proper Ablative of instrument.

These are all the case terminations we have in modern English, and most of these, it will be seen, could not now be recognized as cases. The Possessive case is so manifest a convenience in place of using the more formal objective with the preposition *of*, that it will probably exist as long as the English language. The close union of the governing noun, with its Possessive, is quite analogous to the "construct state," its equivalent in the Semitic languages. The other cases our language can well dispense with. Their place is well supplied by prepositions and by the position of the substantive in the sentence, while their removal has rendered the language much simpler and easier to learn.

---

## RECENT DISCOVERIES IN IRON.

THE popular opinion, that the various kinds of cast-iron and steel owe their diverse properties chiefly to their containing different proportions of combined carbon, has long been doubted. Chemical analyses have shown that combinations of iron and carbon do not always possess properties according to theory. Specimens of cast-iron and steel, widely different in quality, are found to contain exactly the same proportion of carbon; and the same is true of wrought-iron and steel. The consideration of these well-known facts led M. de Cizancourt, a distinguished iron manufacturer, to enter upon a course of investigation, which has resulted in the complete overthrow of the carbon theory. Berzelius first ascertained that the remarkable difference between the salts of the protoxide and those of the peroxide of iron is owing to their containing not merely different proportions of the same metallic base as is generally supposed, but different bases—that there are, in fact, two kinds of iron-metal, which, except that they may be converted into each other, are as unlike as can be.

He called the base of the protosalts *ferrosium*, that of the persalts *ferrum*. So great is the difference between the compounds of these two allotropic states of iron, that an eminent chemist, Dr. Odling, has said that had we been unacquainted with the methods of converting them into each other, we should never have suspected them to contain the same metal, or even a similar metal. They differ from each other more than the salts of *ferrosium* differ from the salts of copper or nickel, and more than the salts of *ferricum* from those of aluminum or bismuth. M. de Cizancourt



court finds that ferrosium and ferricum are as distinct in metallurgy as in chemistry, and claims that the "dominant characteristics" of manufactured iron depend entirely upon how far it consists of the one form of iron, and how far of the other ; and this depends chiefly upon the degree of oxidation of the ore from which the iron is derived.

Ferrosium is hard and brittle, and when combined with carbon constitutes the variety of iron known as *white cast-iron*. It is reducible at a much lower temperature than ferricum, has a stronger affinity for carbon, and may be converted into ferricum much more readily than ferricum into ferrosium. In metallurgical operations on a great scale, the latter transformation seldom occurs.

Malleable iron is nearly pure ferricum, the distinguishing characteristics of which are malleableness and tenacity. It may be derived directly from an ore of ferricum ; or it may be derived from an ore of ferrosium, the metal being transformed during the processes of manufacture ; or when the ore, like the magnetic oxide, contains both of the two states of iron, it may consist of a mixture in any proportion of what may be called natural ferricum and artificial ferricum. M. de Cizancourt attributes the different varieties of wrought-iron to such diversity of composition.

The soft and somewhat tough *gray cast-iron* is also ferricum. *Mottled cast-iron* is a compound of ferrosium and ferricum. The graphite, which is diffused through these two kinds of cast-iron, and which remains unchanged after the iron is dissolved by dilute sulphuric acid, is carbon given up by the ferricum while cooling. Steel is also a mixture of ferrosium and ferricum, combining the fusibility of the first with the malleability and ductility of the last—the best and most stable kind being that which contains the two states of iron in atomic proportions.

A good steel may consequently be made directly from the ore known as magnetic oxide ; or by fusing together proper proportions of white cast-iron, which is a carbide of ferrosium, and soft iron, which is nearly pure ferricum.

---

THE SOURCE OF THE NILE STILL UNFOUND.—Captain Speke, who has been enjoying the glory of having discovered the long-hidden fountains of this wonderful river, is in danger of losing his laurels. Mr. Baker has been making explorations, and the conclusions of the two do not agree. The sum of the whole matter seems to be that Captain Speke discovered the great lake, Victoria Nyanza, and a river issuing from it. This river, it has been ascertained, with several others, equally large, falls into another great lake, the Albert Nyanza. The outlet of this last lake *may* be the beginning of the Nile, but it is not yet known to be so.

## NEGLECT OF APPARATUS.

THE Greek expression, "having seen, then we know," is a correct one. Nowhere is this idea more applicable, than in the school-room. Let a child see a principle demonstrated in a manner suited to his capacity, and then only can he be said to know it. This is as applicable to the more advanced pupils, as to the child under primary instruction, especially when Chemistry and Natural Philosophy are the branches taught. What pupil, however mature, can properly understand these studies without the aid of experiments and apparatus?

How can a teacher clearly prove to a class the pressure of the atmosphere, without an air-pump; or show the nature of hydrogen gas, unless he makes it, and exhibits its properties? Yet many teachers attempt, for it can be but an attempt, to teach these branches of natural science without the aid of such illustrations. The result is, either the pupil becomes disgusted with these important and interesting studies, or only burdens his memory with facts which his reason can not digest, nor his judgment make practical. This erroneous method of imparting instruction does not always arise from the want of apparatus, but often from carelessness and neglect. This neglect is to be found in schools of every grade, from the smallest district school to the largest academy.

Most country schools possess a globe, but how many of the pupils are benefited by it? Well does the writer remember when a globe was purchased for the common-school in which he was a pupil. For three years following he remained there, and three different instructors "swayed the scepter of Birch." Under the teacher's desk stood a box, locked, and report said that it contained the world in miniature, but not one of these teachers ever permitted the scholars to behold it. Outline maps had also been procured, and they were shown, perhaps, a dozen times during his attendance. It was an expense to the district to have the blackboard painted; so the teachers, fearful of displacing its present coat, never allowed the pupils to injure it with chalk. As it was in that school then, so does the writer find it to-day in many schools of a similar grade. Inspect the condition of our incorporated academies, and in many ways the same neglect is apparent. The importance of chemical and philosophical apparatus is admitted in the Empire State at least, where the regents grant each year to every incorporated institution, a sum equal to that which the trustees raise for the purchase of apparatus, which must not, however, exceed a certain prescribed amount. Instructors use this as a means of drawing patronage, by publishing, in a marked manner, the cost of their apparatus. If their valuations are true (and they are often to be doubted), they usually include the cost of every article purchased since the school was founded, whether it now has any value or utility. Examine the appa-

ratus of most of our academies, and you will not find one in five where one-half of the instruments are in working order. Some have been broken by ignoramuses acting as teachers. In some cases, the pupils have had free access to them, and destruction has been the result. In others, they have been allowed to become useless through want of attention.

An institution was opened some twelve years since in one of the southern counties of New York, and provided with a superior chemical and philosophical apparatus ; now it is impossible to find in it a single piece which is of any benefit to a class. Portions remain, but rust, the vandalism of the pupils, and the indolence of the teachers have ruined what should have been the pride of the academy. This is but an illustration of the condition of the natural science department in many of our higher schools. Should investigations be made as to the benefit derived from appropriations made by the State, and the present condition of the apparatus purchased, I believe that no more such allowances would be granted, unless the institution would guarantee to use and keep in good repair the articles provided.

The causes of this neglect of apparatus have been casually noticed, but deserve a more extensive review.

Often the teacher is ignorant both of their utility and construction ; has been educated without them, and hence regards them as useless. This refers, perhaps, more to the teachers of public schools, than to those of a higher grade.

Indolence is often the cause. To use and keep an apparatus in good order requires time and labor, and it may also soil the hands. The instructor being too lazy to clean an article after use, allows some heedless pupil to do his work, or he puts it aside never to be looked at until it is again wanted, when he finds it ruined.

Want of time may be given as another reason. In many small academies where they profess to teach every thing, one teacher is required to instruct three or four departments, and hence has not sufficient leisure to give his apparatus due attention.

Apparatus is found as it should be, only where the teacher understands the mechanism of each instrument under his control ; knows its appropriate use ; inspects its condition almost daily ; loves his field of labor, and takes pride in exhibiting his well-kept chemical and philosophical rooms.

---

This life is not holiness, but a becoming holy ; not health, but a becoming healthy ; not a being, but a becoming to be ; not a rest, but a labor ; we are not yet what we shall be ; all is not yet done and finished, but in progress ; this is not the end, but the way ; it glows not nor sparkles yet, but every thing is purifying.—*Luther.*

## ANALYTICAL ARITHMETIC.

THERE have been many improvements in methods of teaching arithmetic, in consequence of the prominent position of the science in the curriculum of studies in our best schools ; still, I question if it is taught as efficiently as it might be, or that a proper intellectual advantage is obtained from its study. The instruction given, as a general rule, is too dogmatic. The pupil works too much according to *rules* without regard to *principles*. The reasoning faculties are not exercised by *learning by rote* a set of arbitrary rules, and then solving questions according to those rules, without any knowledge whatever of the *principles* on which the rules may be founded. And yet this is a method adopted in many schools ; and that boy who can apply most quickly the *rules* in producing results, is regarded as the most expert arithmetician.

Much of that intellectual training which is sought from the higher branches of mathematics, could be acquired from the most elementary instruction in arithmetic. Pupils rush on to the study of algebra and geometry, attracted by their high-sounding titles, and the charms which time has associated with them ; and parents too often fancy, if their children are studying algebra, geometry, etc., their progress is great and rapid. Arithmetic is consequently neglected ; and there is not that mental discipline derived from it, which it would certainly bestow if properly taught.

Before a boy advances to any extent in arithmetic, he should be well drilled in mental calculations. His mind will thus acquire a habit of rapid computation, and if judiciously taught, a deductive method will at the same time be acquired. Arithmetic, when properly taught, becomes a course of mental discipline,—in its first steps exceedingly elementary, but increasing in difficulty in a measured progression with the child's intelligence. Thus, the understanding is cultivated from the time the pupil first enters school ; and in the higher classes results are obtained, which, by any process less constant in its operation, and less systematic, would be impracticable. If the analytical method of teaching arithmetic were more common, the *practical* advantage would be much greater.

Before the pupil is familiar with this method, give him questions such as the following :

1. If 9 yards of cloth cost \$54.45, what would 7 yards cost ?

What do 9 yards cost ? \$54.45. What, then, would 1 yard cost ? One yard would cost the ninth part of the price of 9 yards, or \$6.05. What would 7 yards cost ? Seven times the price of 1 yard, or \$42.35.

This might be systematically written as follows :

$$\text{Cost of 9 yards} = \$54.45$$

$$\text{" 1 yard} = \underline{\quad 6.05 \quad}$$

$$\text{" 7 yards} = \$6.05 \times 7 = \$42.35.$$

2. If 4 men can do a piece of work in 48 days, how long will it take 24 men to do it?

The solution may be written thus :

Time for 4 men to do the work = 48 days,

" 1 man " = 4 times 48 days,

" 24 men " =  $\frac{1}{24}$  of 4 times 48 days = 8 days.

If 4 men require 48 days to do the work, would 1 man require a longer or shorter time? *A longer time.* How much longer? *4 times longer, etc.*

In Compound Proportion particularly, this deductive method is both convenient and useful.

The following question offers many difficulties to a pupil in Compound Proportion, but by the method of analysis, or *First Principles*, it can be made very intelligible and instructive.

3. If 12 horses plough a field of 8 acres in 3 days, in what time will 21 horses plough a field of 100 acres?

*Solution:*

(a) Time in which 12 horses plough 8 acres = 3 days,

(b) " " 1 horse ploughs 8 acres = 12 times 3 days,

(c) " " 1 " 1 acre =  $\frac{3 \times 12}{8}$  days,

(d) " " 21 horses plough 1 acre =  $\frac{3 \times 12}{8 \times 21}$  days,

(e) " " 21 " 100 acres =  $\frac{3 \times 12 \times 100}{8 \times 21} = 21.428$  days

The following are examples of the questions that may be proposed to a class with reference to the different steps, which, for convenience, are marked a, b, c, etc.

(a) What is stated in this question? *Time in which 12 horses, etc.*

(b) If 12 horses plough 8 acres in 3 days, will one horse require a longer or a shorter time? *A longer time.* How much longer? *Twelve times longer.* Then, if 12 horses plough 8 acres in 3 days, 1 horse would require 12 times 3 days.

(c) If 1 horse can plough 8 acres in 12 times 3 days, would it take a longer or shorter time to plough 1 acre? *A shorter time.* In what time, then, would 1 horse plough 1 acre? *In one-eighth of twelve times three days.* And so the different steps can be analyzed.

This method of reasoning from the given thing to a unit, and from the unit to the required thing, is useful as an early application of the deductive method which is employed in algebra. The pupil thus becomes habituated to the different steps of an argument, and his mind, while learning the practice of arithmetic, is strengthened in its reasoning powers. Questions in discount and percentage, I think, become much more intelligible by this method. As an example, take the following problem in discount.

4. What is the present worth of \$4,500, due 16 months hence, at 6 per cent. per annum?

|                                          |                                                        |
|------------------------------------------|--------------------------------------------------------|
| (a) Interest on \$100 for 12 months      | = \$6                                                  |
| "          100 for 16 months             | = $\$6 \times 1\frac{1}{3} = \$8$                      |
| ∴ Amount of 100 for 16 months            | = \$108                                                |
| (b) Present worth of \$108 for 16 months | = \$100                                                |
| "          "          \$1          "     | = $\frac{\$100}{108}$                                  |
| "          "          \$4,500     "      | = $\frac{\$100 \times 4500}{108} = \$41.66\frac{2}{3}$ |

After the pupil is acquainted with vulgar and decimal fractions, this method will become quite simple, and all the questions which occur in partnership and percentage can be easily solved. I would not, however, advocate the discontinuance of some of the *rules* which are founded on very plain principles; but I would advocate more frequent exercise in this deductive method. I believe it is now given in most works on arithmetic; but it has not that distinction which it is entitled to, nor is the *style of writing out the solution* attended to properly. This, too, is a matter of importance. Neatness and systematic arrangement should always be required. Boys are prone to be slovenly, and every care should be taken to check a tendency which, if persevered in, will not be confined merely to work in arithmetic.

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PRONUNCIATIONS.—The London correspondent of *The Round Table*, says, that it is a mistake to pronounce Pall Mall as if it were Pell Mell. The *a* is pronounced as it is in the word "alley," and *fal-lal* would be a rhyme to it. He says there are quite a number of English words, whose pronunciation, we, Americans, generally mistake. The name of the poet Cowper, for instance, is pronounced as Cooper. There are some things in which our pronunciation is the best—for example, nearly all their *a*'s are broad, as *half* for half, *past* for past. We might also well refuse to follow them in calling Greenwich Grinidge, Norwich Norridge, Finsbury Finsbry, and the like. In writing the name Disraeli, Americans always put the apostrophe after the D (D'Israeli), which is never done in England. The English generally pronounce the *e* broad in such words as clerk (clark). The famous Epsom race is called the "Darby." Earl Derby's name is variously pronounced. Americans should know, also, that the Duke of Argyll's name should not be spelt Argyle, though the latter represents the true pronunciation. Among the names of literary men occasionally mispronounced in America, are Clough (Cluff), Froude (Frood), Bagshot (Baggot), Lewes (Lose), Buchanan (Bewkannon), and Maurice (Morris)—the names in parentheses indicating the true pronunciations. Of course, we can only rely on some knowledge of continental languages to make people pronounce Mazzini *Matseeny*, Beethoven *Beethoven*, and Goethe *Gerter*, or *Gertay*.

## COLONIAL LAWS.

AN ancient law of Massachusetts required that "the ladies' dresses be made so long as to hide their shoe-buckles;" and, in 1630, there was an act of the General Court prohibiting short sleeves, and requiring garments to be lengthened so as to cover the arms to the wrists. Our good forefathers do not seem to have confined their efforts in the way of "dress reform" wholly to the softer sex. In 1640 the General Court of Connecticut *ordered*, that "notwithstanding the late order concerning the *excess* of apparel, yet diverse persons of several ranks are observed still to exceed therein. It is therefore *ordered*, that the constables of every town within these liberties shall observe and take notice of any particular person or persons within their several limits, and all such as they judge to exceed their condition and rank therein, they shall present and warn to appear at the court." It was further *ordered*, that all such persons as shall for the future make, weave, or buy any apparel exceeding the quality and condition of their persons and estates, or that is apparently beyond the necessary end of apparel for covering or comeliness, either of these to be judged by the Grand-jury and County Court, where such presentments are made, shall forfeit, for every such offence, ten shillings." Similar orders were made in Massachusetts, where, in 1653, we find that one Fairbanks was tried for wearing "great boots." About the same time it was *ordered*, in Connecticut, that "if any man kiss his wife, or wife kiss her husband, on the Lord's day, the party in fault shall be punished at the discretion of the Court of Magistrates." A gentleman of New Haven, after an absence of some months, reaching home on the Sabbath, and meeting his wife at his door, kissed her, and for his temerity in thus violating the law, was arraigned before the court the next day, and fined "for so palpable a breach of the law on the Lord's day." We were unable to find the law prohibiting cider from working on Sabbath, upon the penalty of flogging the barrels, though tradition says such did exist.

In the early settlement of Virginia, squirrels were so numerous that they greatly injured, and often destroyed the fields of corn, and the outside rows were usually entirely consumed. To prevent this, the General Court seriously set themselves at work, and *ordered*, that thereafter no planter should have, or plant any *outside rows* in his cornfield. It were well if Virginia Judges never made a graver mistake. In Massachusetts (1669) it was enacted by the court, that "any person or persons who shall be found smoking tobacco on the Lord's day, going to or coming from the meetings, within two miles of the meeting-house, shall pay twelve pence for every such default. The same penalty was imposed for "taking tobacco publicly in the open streets of any town." There is still a law in Boston against smoking in the streets. It is said that a lady there, not

long since, having made a pudding for dinner, put it on the front steps to cool. It was immediately taken from her *vi et armis*. A policeman took it to the station-house for "smoking in the street."

Roger Williams, after being banished from Massachusetts, removed to Providence, and became lawgiver and minister to his infant colony. He formed his constitution upon the broadest principles of civil and religious liberty and equal rights, and was the first governor in North America who held *liberty of conscience* to be *the birthright of man*. The spirit of Roger Williams, more than that of any other of the early settlers, lives to-day in our laws.

In Maryland (1699) it was enacted, that "if any person whatever, inhabiting within this province, shall blaspheme—that is, curse God, deny our Saviour to be the son of God, or deny the Holy Trinity, or the Godhead of any of the three persons, or the unity of the Godhead; or shall utter any reproachful words or language concerning the Holy Trinity, or any of the three persons thereof—he or she shall, for the first offence, *be bored through the tongue*, and fined £20 sterling."

In Massachusetts (1657) it was *ordered*, that if any Quaker or Quakers shall presume, after they have once suffered what the law requireth, to come into this jurisdiction, every such male Quaker shall, for the first offence, *have one of his ears cut off*, and be kept at work in the house of correction till he can be sent away at his own charge; and for the second offence, shall have *the other ear cut off*, and be kept at the house of correction, as aforesaid. And every woman Quaker that hath suffered the law here, that shall presume to come into this jurisdiction, shall be severely whipped, and kept at the house of correction at work till she be sent away at her own charge; and so also for her coming again, she shall be alike used as aforesaid. And for every Quaker, he or she, that shall a third time herein again offend, they *shall have their tongues bored through with a hot iron*, and be kept at the house of correction, close at work, till they be sent away at their own charge."

In New York (1693) it was ordered that "all Jesuits, seminary priests, missionaries, or other ecclesiastical persons, made or ordained by any power or jurisdiction derived or pretended from the Pope, residing or being within the province, depart the same on or before the first of November, 1700. If any such continue to remain, or come into the Province, after the said first of November, he shall be deemed an incendiary, a disturber of the public peace, an enemy to the true Christian religion, and shall suffer *perpetual punishment*." One that lived in those days, we imagine, could hardly suspect that before another century passed away, the people of the whole United States would declare that "Congress shall pass no law respecting an establishment of religion, or prohibiting the free exercise thereof."



## JULIAN GURDON : SCHOOLMASTER.

## CHAPTER V.

A CONSULTATION AND A CRISIS.—*Continued.*

**J**IM HOWLAND and Andrew Haight were on hand this morning. Except during reading of Scripture and prayer, they made no disturbance during the early part of the day. They "parsed" and "did sums" with the rest, and again went away at noon ; but this time they returned to the afternoon session, coming in noisily after school had begun, and conducting in a manner that convinced me that an outbreak was impending. I made no comment, thinking it better to defer, if possible, all strife until the settlement of affairs by the school-meeting. But it was only by the utmost self-control that I was able to remain quiet amidst the growing tumult.

It was quite late in the afternoon when I came to Mary Lee. Her lessons being all different from the others', she recited them alone. Now she showed me on her slate the sums, over which she had been puzzling ; recited her lessons in geography and grammar, and then, to my surprise, produced a French Reader, and requested me to assist her in the translation of a difficult passage. I explained the idiom, and showed her the verb in the lexicon, tracing it through its irregularities ; and was proceeding to commend her neatly-written exercise, when Jim Howland suddenly rose and addressed me, in an insolent tone.

"You'd better drop that, I tell you ; 'common-schools is made for English branches', father says, and if them Lawrences and Lees want French and stuff they must go to 'cademies to git it. If you teach 'em here, Mr. What's-your-name, he says he'll take the law on ye."

I knew nothing about the law upon the point, but I knew I was not to be bullied in my school by a pupil.

"Take your seat, sir !" I said.

"Not for you !" was the reply.

Quick as thought, I stood beside him. "Then leave the school !" I said, quietly, "you have no right here." He turned and clenched my arm, while Andrew Haight brandished his fist close to my face. One glance showed me Robert Lawrence by my side, and I hurled the bully toward the center of the room.

## CHAPTER VI.

## THE SCHOOL-MEETING.

**I**T was late before I arrived at the school-house, where the school-meeting was in progress. In the excitement of the occasion I had not been conscious of the severe wrenching which my arms and chest had re-

ceived in my encounter with the two young ruffians, whom, thanks to the assistance of Robert Lawrence, and the unexpected aid of James Lord, I had been able to eject from the school-house. Jim Howland, like all bullies, was a coward also, and went off, crying, toward home, as soon as the door closed behind him. But Andrew Haight remained, and a battle of fisticuffs took place in the yard, between him and James Lord, before he followed the example and footsteps of his companion.

After they had gone, a solemn hush pervaded the room. James Lord came in, bearing with all meekness his victor's laurels, and took his seat, blushing beneath the approving glances of the school. Robert Lawrence looked as if he had encountered no worse opponent than the problem in algebra, over which he was puzzling and frowning. And I, buoyed up by excitement, carried the afternoon exercises triumphantly to the end. But when I had reached home I was very glad to repose quietly in the dimness and silence of Mrs. Lawrence's spare-room till called to supper. The application of certain embrocations, and an unmeasured amount of praise and pity from Mrs. Lawrence and her daughter, detained me from the meeting until long after the deacon had wended his way thither.

I entered the meeting shyly, expecting to be received with marks of enmity. Instead, the meed of a conqueror awaited me.

An awkward cheer greeted my entrance, and a number of hard, brown hands were extended. Instead of being allowed to sit down in the corner toward which I turned, I was thrust into a conspicuous place beside the chairman, while my friend, the deacon, was on the other side, and just before me Robert was officiating as secretary of the meeting.

I had scarcely taken my seat before the deacon was upon his feet, moving a vote of thanks to me for the efficient manner in which I had cleared the school of the two ruffianly intruders. And when the vote had been pronounced unanimous, and I rose to reply, he begged me to tell "the deestricst" what I had said to him in relation to books and apparatus. Glad to turn the discussion, I said a few earnest words, assuring the people of my desire to do all in my power for the improvement of my pupils, and that for this end alone did I make any demands upon them. I gave my reasons for desiring a change of books; and explained how the school might be benefited by the charts I had sent for, a blackboard, and such uncomplicated apparatus as might easily be prepared. My plea was successful; all I asked was granted with scarcely a dissenting voice.

After adjournment, there was a general gathering round me, and several introductions took place. Among others the deacon named to me Mr. Lee, who had been chairman of the meeting. He bowed with town-bred grace, but did not extend his hand. There was something constrained in his manner, I thought, but his tone was courteous, and his words apologetic as he alluded to the altercation that afternoon.

"Mary is anxious to get on with her French, and I was pleased to think

that we were likely to secure a teacher for the winter who could give her the instruction she needs. But I find the laws of this State limit the curriculum of our common-schools to English studies. Deacon Lawrence informs me that you have engaged to employ your leisure in the tuition of his son Robert, or I should have proposed a similar arrangement for Mary's benefit."

"I should be glad to assist her, both for her own sake and to keep my own knowledge of the language in use," I replied. "If an arrangement can be made, will there be any objection to my giving her instruction during the noon recess?"

"I think not—I really think not," Mr. Lee replied, with more cordiality than he had before manifested. "Thank you for suggesting it. I feel reluctant to accept such a sacrifice from you, but since you are willing to make it, I will inquire if it be permissible to teach French beneath this roof out of regular school-hours."

Saying this he bowed a farewell, but, as I again observed, did not offer his hand. The lights were now extinguished, and I accompanied the deacon and his son to their home. After a fresh course of embrocations, herb-tea, and petting, I retired to the soundest slumber I had enjoyed since my arrival upon the scene of my pedagogical labors.

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## CHAPTER VII.

### SMOOTH WATERS.

THE outset of my voyage upon the sea of teacher-life was stormy, but luckily for me the storms were brief. I now knew that the people of the district had confidence in me, and I learned that I was considered, in the words of at least one influential personage, "a first-rate fellow, that meant to do the square thing by all concerned."

Approbation and appreciation are excellent stimulants to exertion. I tried to deserve the first, and I felt grateful for the last.

I was really happy in the performance of my duties. I had no time for society, so did not miss it. From nine o'clock in the morning till four in the afternoon I was constantly occupied, only allowing myself time for a luncheon at noon, devoting the remainder of the recess to Mary Lee. After school, I had my walk to my boarding place, and perhaps a trial of strength, snowballing, or wrestling with Robert Lawrence, or some of the elder boys, who were now friendly and familiar with me out of school, but not the less respectful and obedient within the hours.

After supper I went to the deacon's, or Robert came to me for his recitations, which occupied about two hours. I then mingled with the family, or went out to walk for half an hour, and devoted the remainder of the evening to my own studies.

Of course, this programme was sometimes varied. We had singing-schools each alternate week, an occasional spelling-school, and sometimes a merry-making at some of the farm-houses. Sometimes, as was the case, when I boarded at Mr. Lee's, I spent the evening, after Robert's departure, in social converse with the family.

Mr. Lee was absent during the time I spent at his house, so that, somewhat to my regret, as he was the best informed man in the district, I had no opportunity of improving the acquaintance formed at the school-meeting.

Mrs. Lee was an invalid, with a sweet, careworn face, that must have been very beautiful in her youth. There was a timidity and anxiety about her that affected me painfully ; but I readily accepted Miss Parkson's statement, that this strange manner was the result of nervous disease. As to Miss Parkson herself, though she complained of the loneliness of their present home, she did not feel it, apparently, so much as I would have supposed, being greatly occupied with the housekeeping, of the cares of which she entirely relieved her sister. She was one of the best performers upon the piano I had ever heard, and found such pleasure in her music that she never seemed to regret, for herself, that there was no society.

The tastes and manners of this family so much resembled those of my mother and sister, that it is not remarkable that I was happy with them, nor that I deeply regretted to leave. But my time expired, and I had to seek other and less pleasant quarters. The next day, when returning from school, I met Mr. Lee. With his usual courtesy, he expressed much regret at the necessity which had forced him to be absent during my stay at his house. After my pleasant experience in his family, I was pained to find myself indulging in a vague impression that he had left home purposely to avoid me, and that his outward courtesy covered a dislike, while, at the same time, he did not hesitate to use me for his own benefit. As I walked away, chiding myself for these thoughts, I could not but remember that he had never taken my hand, never welcomed me beneath his roof, and that upon this occasion, while profuse in his compliments and regrets, he never once allowed his eyes to meet mine.

The winter wore away, my school became orderly and greatly improved. Robert Lawrence and Mary Lee progressed beyond my best expectations, while I was by no means dissatisfied with my own advance. I was happy, because benefiting others while advancing my own interests, and because I had won confidence and good-will where I was at first regarded with distrust, both of my powers and my intentions.

Before spring I had been the round of the district, spending the allotted time in each family, except in one or two cases where sickness or family affliction had prevented.

When I had still about a month's services to complete, the Lawrences, who were still my best as they were my cherished friends, insisted that the

remainder of the time should be passed in their comfortable old pilgrim mansion.

After this invitation had been accepted there came, one morning, a tiny note from Mrs. Lee, urging me to make her house my home; while beneath her delicate timid-looking lines, there appeared, in bolder writing, "I concur. Jane Parkson." I laughed aloud as I read this characteristic addition, but I was conscious of a deeper gladness than mere amusement. The feeling of repulsion, of which I have before spoken, had kept me from any attempt at intimacy with Mr. Lee. And when I learned that he left home immediately after the dispatch of Mrs. Lee's note, the fact seemed to give additional force to my suspicions, though it removed the only objection I should have had, if free, to the acceptance of the invitation.

It was a happy month that I spent at the Lawrences. I had ceased to observe with distaste the uncultivated habits of the family. Their genuine goodness, and the regard shown me, obscured all else. Robert had become more a gentleman in externals, and more companionable since I had known him. I regarded him almost as a brother, and was glad that he proposed to enter Elmtown College at the commencement of the next year. I resolved that he should become an inmate of my mother's family.

The five months that I had spent here seemed to have knit me closely to all those with whom I had been intimately associated. My scholars had become very dear to me. Every cherry-cheeked hoyden had a separate hold upon my affections. Every coarse youth, half-taming himself to a ludicrous imitation of my manners and speech, was a friend. Mary Lee nestled in my heart. Certainly, except my sister Emma, I had loved no one as I loved her, and I looked forward to our separation with a pang.

We had a quaint little exhibition at the close of the school, and then the farewells were said. After a few days of friendly visiting and ramblings with Robert about the spring woods, I returned to Elmtown.

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SHALL AND WILL.—The use of *will* for *shall* in the future tense and first person, seems to be increasing among us. We mean, of course, its use to give a simple statement in the future, without any act of the will implied. It comes from the South. The reports of Congressional proceedings used to be full of it. "If the motion is laid on the table we will be unable to take it up before Monday," etc. By an error of the same sort *would* is used for *should*. "I sent word that if he was not here by noon we would be beaten," and the like. It is a pity that the bad habit should spread over all the country. Here among us, fortunately, the only rule one needs to follow as to these words is to use them in the way that is most natural; for our habits, at least among the common people, is all right.

## SLANG.—A DIALOGUE.

Characters—KATE MERRILL, a school-girl; LIZZIE, Kate's little sister; MARY WILLIAMS, Kate's cousin; HARRY, brother of Kate and Lizzie; RALPH, Mary's brother.

Scene—*Mr. Merrill's Parlor. Enter KATE and LIZZIE, with school-books, etc., just returned from school.*

*Lizzie.* We shall tell father of Harry; shan't we?

*Kate.* No, I don't think that will be best; but I shall give Master Harry a piece of my mind. Just to think of a son of Morton Merrill swearing in the street! It is perfectly shameful!

*Enter HARRY, with one skate.*

*Harry.* I say, Kate, have you seen my other skate? I'm sure I left them both in the hall, and now I can't find but one anywhere.

*Kate.* No; but I should like to see *you* a few moments. I have something to say to you.

*Harry.* Well, hurry up, then, for I'm going off skating with Tom Harding, as soon as he comes, and I want to find my other skate.

*Kate.* Tom Harding is not a very nice boy for you to be with so much. You were with him this afternoon, when I heard you using language I never thought a brother of mine would use.

*Harry.* I should like to know what I said.

*Kate.* You don't remember *swearing*, do you?

*Harry.* What do you mean, Kate Merrill? I never did such a thing in my life.

*Kate.* Lizzie and I both heard you; didn't we, Lizzie?

*Lizzie.* Yes, we did; you said "By golly," and Kate is going to give you a piece of her mind for it.

*Harry.* She won't have much mind left by and by. But I say "By golly" isn't swearing any more than "Fiddlesticks," and you both say that.

*Kate.* Oh, yes it is, Harry; it is swearing to say "By" any thing.

*Harry.* Well, "Golly" isn't any thing; so there, now!

*Enter RALPH and MARY.*

*Harry.* Hulloo, Ralph! Will you go skating? I am going as soon these girls get through scolding me.

*Ralph.* Why, what are you being scolded for now?

*Mary.* I thought something was the matter. What can it be? Have you been doing any thing naughty?

*Harry.* No, I haven't; but these girls will have it that "By golly" is swearing. Is it now, Cousin Mary?

*Mary.* It is, certainly, a rowdyish expression, which I hope you will never use.

*Kate.* There, now, Master Harry!

*Harry.* Well, then, "Fiddlesticks" is "rowdyish," too; and Kate says that a dozen times a day.

*Kate.* But you never heard me say it on the street.

*Harry.* No ; but you say other things, though. Cousin Mary, I must tell you something. Kate and her darling friend, Etta Chamberlain, were walking in their usual loving manner the other day, their heads so close that I couldn't have fired a chestnut between 'em without hitting both their noses, when, turning a corner, whom should they meet but Kate's music teacher, Mr. Nelson. As the girls had just been talking about him, they were, of course, very much surprised ; and Kate exclaimed, "Jerusha Stykes !" whereupon Mr. Nelson made a profound bow to Etta, and said, "I am happy to meet you, Miss Stykes." You can't imagine how mad those girls were. Poor "Jerusha" hasn't quite recovered yet.

*Kate.* You provoking boy ! I should like to know how you heard about it. But really, Cousin Mary, I was vexed enough, to have Mr. Nelson hear me say that. I know he will think me very rude.

*Mary.* My dear Kate, it is not what people think we are, but what we really are, that should give us most care. I have long wished to speak to you about this matter. You were quite indignant at Harry, when really the expressions you use are hardly more refined.

*Kate.* But, Cousin Mary, I don't mean to say such things, except when I am with the girls. You are not a school-girl, and don't know how they all use such expressions.

*Mary.* School-girls are not the only guilty ones. Many of their older sisters, who would be ashamed of an *ungrammatical* phrase as detracting from their culture and refinement, are not ashamed of *slang* phrases, and often do not hesitate to use language that is *worse* than slang. They may not intend to use it except among themselves, but the effect is the same in the end. Habits of conversation can not be dropped at will, and a single unguarded word may reveal a practice that can not but degrade a girl in the estimation of her right-thinking friends. But, setting aside the right and wrong of the matter, the habit is vulgar and unlady-like, and I really wish you would avoid it. I know that Ralph agrees with me. Don't you, brother ?

*Ralph.* Not exactly, Mary. You say, *setting aside the right and wrong of the matter*. In my opinion we have no right to set that aside. The question, "Is it right?" should be regarded more than "What will people think?" Can we indulge in such expressions when we remember that "our conversation is in heaven," and that for every idle word we shall give an account ?

*Harry.* Ralph, you're a brick ! Kate won't dare to scold me any more to-day, so I'm off. You'll come with me as soon as I find my skate, won't you ?

*Kate.* Harry is right. I am too much in fault myself to presume to correct him. I thank you for correcting me, and I assure you I realize the folly of the habit—for it has been nothing worse—and really intend to break myself of it.

## MY EXPERIENCE.

HAVING taught just enough to know my aptness, and to feel the defects of my education, I laid aside my badge of office, and spent three long years in preparation for my life work. I left school full of enthusiasm, eager to enter upon my chosen task. I had no romantic ideas of dainty children, whose "young ideas" would "shoot" spontaneously. I had a realizing sense of big boys and ugly girls, to whom arithmetic was a mystery and grammar an abomination—of restless babies sent for me to amuse—of exacting parents and cross directors. But nothing daunted, I secured a certificate and sought a place.

The town schools were engaged for the year in the place I first visited, and I was advised to make application for the Sandford school. A friend accompanied me to the house of the director, and, after a few remarks, broached the object of our call.

"Didn't want a woman nohow ; girls didn't teach for nothin' but money to dress with—sech doin's had got to be stopped if *he* had to spend the whole winter—he was going to have order, and things had got to be done thorough."

I could not forbear a smile as the gentleman proceeded for several minutes with language far more vigorous than elegant. My friend, however, interposed a few words as to my attainments, etc., and exhibited the certificate above mentioned.

"They had partly engaged a Mr. Jewett," the director said. "The deestrick wanted a man, and were bound to have one—though like's not, they'd have to take a woman teacher at last."

Finally, he decided that if he failed of securing Mr. Jewett, he would see if we could agree as to terms. Forty-five dollars per month were the wages of a gentleman ; thirty for a lady—quite a difference, I thought, but "women needn't expect more'n that ; 'twas a splendid chance for a woman !"

Mr. Jewett, a young man notoriously intemperate, was secured to conduct the education of those young and impressible scholars. What a mark he may leave on their tender minds ! The County Superintendent told me that the school was as small, and as easily governed, as any he knew. However, the "deestrick" have their chosen teacher.

At the next place, I was recommended to try the school at Clipton. So to Clipton we journeyed : found Dr. Judd, the director, at home, and introduced business immediately. The same idea was uppermost here as at my first place of application. A man they must and would have, if he could be found. School consisted of seventy scholars who required thirty classes to accommodate their varied attainments, from A B C's to algebra. Wages were sixty dollars for one of the "lords of creation ;" thirty for a "weaker vessel !" I was indignant, and was it not with a righteous indig-



nation? Call this an enlightened age—an age of humanity and justice! Dr. Judd admitted that, in many cases, a lady's government was better than a gentleman's; that she had more *tact* for school-teaching, and said he "shouldn't think much of a man that offered to teach for forty dollars per month."

"Then, why not pay a lady decent wages, and act like men and Christians?" my friend said.

"Well," he replied slowly, "public opinion is settled, and a woman can not expect as much as a man."

"*Can not expect it!*" Yes, that is a truth, and a shame upon our civilization for the fact. What a glorious thing, if public opinion could be *unsettled*, and our services recompensed equally with our brothers, *as far as we do the same amount of work!* I do not cry out for extra privileges, I do not want any favors—all I ask is justice.

A meeting of the district was held the next night, and the school "bid off" by a young girl who offered to "keep" it for twenty dollars per month. What she intends to do with her thirty classes, I can not tell.

These are but two of the seven refusals I received in the course of three months. No school has appeared for me to teach, and as bread and butter is still a necessity, it behooves me to settle upon *some* course. Shall I devote my heart and brain to the retailing of goods in a fancy store? Shall I resort to the kitchen for a livelihood? As far as dollars and cents are concerned, that would doubtless be as good as any thing. Sewing does not admit of much out-door exercise and would be a slow murder to me. Coloring photographs is said to be remunerative, but that requires much practice. I think of the three long years of preparation—not to mention the expense incurred—and I am disappointed.

There are multitudes of women shut out from school-teaching because of wrong ideas on the part of those in authority; and so long as preference is given to unqualified gentlemen and cheap-working young girls, just so long will educational interests languish, and well-fitted teachers be turned into other fields of labor.

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## MUSIC IN PUBLIC SCHOOLS.

WE commend to the perusal of our readers the following article from the pen of Mr. Parrish, Superintendent of the Schools of New Haven, Connecticut:

It may be deemed as evidence of progress in teaching the science of music, that children of seven to ten years of age are so instructed that they can read the notes with the same facility that they pronounce words in their reading lessons; that they name the terms and explain the principles of the science of music as easily and intelligibly as those in their

arithmetic lessons ; and that they are able, both individually and in concert, to render the notes by their proper tones. Such results have not been found common among children of the ages named, even with very good private instruction. Yet there are two thousand pupils, at the present time, in our city schools, under such thorough drill, that their progress can not fail to gratify those who may chance to witness their performance, and surprise those who have not been aware of what has been accomplished during the past year.

The time devoted to singing is brief, being less than an hour to a class, each week ; but the beneficial results are manifest. It serves to give a pleasing variety to the monotonous duties of the school-room. A new science is added to the other attainments of the pupils, without apparent loss of time. As an aid in discipline it is admirable. Of this, any one observing the drill of a class during the singing hour, would be abundantly satisfied. The fixed attention of each individual ; the precision of movement in marking the time ; and the constant aim to utter pure and correct tones, all contribute to cultivate a high degree of promptitude and exactness. Perhaps no other exercise, equally adapted to both sexes and to large numbers at the same time, could be devised to call into use so many powers, both mental and physical, at the same time as this.

As a mental exercise, it fixes attention, concentrates thought, cultivates quick and nice discernment. As a physical exercise, it brings into healthy action those vital organs, which can not be reached so effectually in any other way. The Germans, who sing almost universally, claim that singing is a preventive of diseases of the lungs. Its utility as a gymnastic exercise can hardly be doubted by those who are accustomed to the use of the vocal organs in singing.

The benefit to the individual, and the influence on the whole school, in the promotion of prompt systematic action and regularity, are of great value, for present success. But beyond this, in the future, the consciousness of a more just appreciation of music from an acquaintance with its principles must ever be a lasting gratification. To the home and social circle, vocal music will add a genial influence of a pleasing and elevating character. Nor should it be forgotten that, for the religious worship of all denominations, early and thorough preparation is here made to supply a want not otherwise easily provided for.

In short, the whole tendency of musical instruction in the public-schools is to refine, elevate, and improve the child, to make him a better citizen, and enable him to exert a better influence.

If parents and all persons interested in the welfare of the rising generation, would more frequently visit the schools and observe what is done in this and all other branches of study, teachers and pupils would be stimulated to more vigorous effort, and the real value of our public-school system would be better appreciated.

## ROLL-CALLING

MUCH time is wasted, especially in large schools, in "calling the roll." Sometimes it is thought necessary to read in fire-company style the names of the pupils in attendance—those present responding "present," unless, as is often the case, they prefer the less musical, but more easily uttered, if not more significant, Anglo-Saxon "here." In certain mixed schools, the amount of time thus consumed is considerably reduced, by causing the lists of the two departments to be read at the same time. The writer has been present during this exercise, on several occasions. The effect produced by such a jargon of *heres* is exceedingly ludicrous, and the cause ought not to be tolerated where there is any desire that "all things" should "be done decently." There are other objectionable devices, less consumptive of time than those already mentioned, but only one need be specified. It is that which places the responsibility of determining who are present upon one or more of the teachers, or upon monitors, who, during the exercise which would otherwise follow the roll-calling, determine, by the eye, who are to be numbered as absentees, and mark them accordingly. This method is objectionable, because the teachers or monitors ought to be allowed to spend the season thus appropriated in the same manner as their associates. Especially should their claims be regarded, when the exercise is of a devotional character.

The best practical method known to the writer is the following : An alphabetical list is prepared as usual, and each pupil receives a number corresponding to the position of his name in the list. This number he retains during the term.

The roll is called thus : At a given signal, the pupil whose number is one, says "one." If he is absent, the teacher calls the number and notes the absence. Pupil, number two, if present, says "two." If not, the teacher does as in the first case, and thus the numbers are all called, none being named until the preceding one has been spoken either by pupil or teacher. Some have objected to this method, because a pupil may call a schoolmate's number and relieve him of the penalty of the absence, but this is an objection which does not hold in practice, for the quick ear of the teacher will more readily detect any attempt at deception than if, with the primitive method, a pupil should shout "here," when the name of his absent school-fellow is called. I know of no other objection.

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DR. WAYLAND appointed as his literary executors Mrs. Wayland, and his sons, Judge Francis Wayland and Rev. Prof. H. L. Wayland. They will at once proceed with the preparation of a memoir of him, and will also provide for the issue of a uniform edition of his complete works.

# AMERICAN EDUCATIONAL MONTHLY.

APRIL, 1866.

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## SET OUT TREES.

AS spring advances, and warm weather comes on, boys and girls will be much more interested in out-door exercises, and in the opening leaves and flowers, than in their books; and it rests with teachers to determine whether this feeling shall be made to create additional interest in school, or whether it shall tend only to draw their pupils away from school. Generally, little or no care is taken to make school-life attractive, or even comfortable, and yet people wonder why children do not like it. Until it becomes natural to like what is ugly and disagreeable, or more care is taken to improve our schools in respect to appearance, particularly in the country, we ought not to expect the children to like school. Older people certainly can not perceive any thing very attractive in the majority of our schools. One who did not understand the motives which usually govern the selection of school-grounds, especially in the country, would be likely to suppose that our boys, in the fear of the birch, had determined to suffer neither that tree nor any other to flourish within school limits, and had carried their resolution into effect. But it is not the fault of the boys that school-grounds are barren and ugly. This is too often the chief cause of their being set apart for school use,—their availability being determined by the fact of their unfitness for any thing else; while little or no care is ever taken by those in authority to make them any more pleasant or inviting than at first.

There can be no better or surer way of remedying this defect than by turning to good account the interest in growing things which children naturally feel as spring advances, by inciting them to decorate the school-grounds with trees and shrubbery. The moral influence of pleasant surroundings is very great, and the sensitive nature of childhood can not fail to be affected by it. Nor can we expect the contrary effect when surroundings are the reverse of beautiful.

Do not say that children can not be made to feel sufficient permanent interest in the matter, to take the trouble to procure the trees at first, or to protect them after they are procured; that in a little while they will be

broken down and destroyed. We have seen the experiment tried, and know better. Let the boys and girls name their trees for themselves, or for their friends, and they will watch and care for them with a tender regard which older and colder hearts can scarcely appreciate.

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#### MIDDLE-CLASS SCHOOLS IN LONDON.

CONSIDERABLE interest is being manifested in London, with regard to a scheme proposed by Rev. William Rodgers, for establishing in that city cheap schools for the children of clerks, tradesmen, and other persons in the same rank in life, for whom it is claimed no adequate system of education exists. The design of Mr. Rodgers and his supporters in this movement is to erect, first, in some central locality, a large building capable of accommodating from eight hundred to a thousand boys, and afterward, as funds and other circumstances will permit, to establish, in other parts of London and the suburbs, other schools, as branches of the central school.

The scheme has been received with great favor among the wealthy banking-houses of the city, and more than £40,000 have already been subscribed for the establishment of the first, or central school. From others, however, and especially those who ought to be best acquainted with the condition of the schools of London, the enterprise has met with considerable opposition. The alleged scarcity of public-schools specially adapted to the wants of the middle classes, is denied; and it is hinted that the "clerks" are in reality endeavoring to attain the incompatible conditions of extreme cheapness with what we would call in this country a very select school; and that while they complain that the schools where a practical or commercial education is professed to be given, are at once poor and expensive, the real objection to them is that bugbear of cockney gentility—the "mixture."

If it is true, as stated, that with but one or two exceptions, none of the middle-class schools of the city are more than half full, or at least working up to the full measure of their capacity, Mr. Rodgers' scheme is likely to prove not only practically unsuccessful, but so far as it does succeed, it will do harm rather than good.

So long as there are already scattered over the city many valuable foundations requiring only public attention and support to become fully

adequate to meet the educational wants of the people, it can not be other than poor policy to establish more schools of the same class. If the money which is subscribed for the erection of new buildings were applied for the improvement and cheapening of the instruction given in the schools already in successful operation, it would promote far more the interests of education.

The same mistaken policy is pursued with us, though chiefly with regard to the higher class of schools. The result is, ten colleges are erected where one is needed, and instead of having a few first-class institutions, large enough for the accommodation of all, and rich enough to provide superior instruction, at little cost, to the student, we have a multitude of inferior, half-sustained establishments, which are colleges only in name.

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#### THE METRICAL SYSTEM OF WEIGHTS AND MEASURES.

THE attention of our readers is invited to the letter and circular of Professor Newton, given on another page. The circular is signed by many of the leading educators of the country.

The practical advantage of a regular system of weights and measures, especially one in harmony with the numerical system in general use, can scarcely be overestimated. And since the metrical system will, doubtless, be officially adopted by our Government at no very distant day, it becomes the duty of teachers not only to make themselves familiar with its character and claims, but to assist in preparing the people for the change.

No stronger argument can be offered in favor of this system, than the fact, that in little more than half a century it has been adopted by the larger part of the civilized world ; while it has almost everywhere received the support of men of science.

The superiority of this system is due to its entire conformity to the decimal notation, and the consequent simplicity of all operations of reduction and computation ; and not, as is sometimes stated, to any real or fancied superiority of the metre as a standard.

The base of our present system, the English yard, is just as *natural* and convenient, and just as determinate, or rather indeterminate, as the metre ; both are arbitrary, and neither, if destroyed, could be restored in conformity to its definition. If a change is made, however, and a decimal system introduced, the metre should be taken as the standard. The commercial

advantage of a system common to all nations, as this bids fair to become, should outweigh all minor defects and disadvantages.

It is needless to deny that the change proposed would cause great inconvenience at first, and loss, but it should be borne in mind that these evils would be temporary, while the gain would be perpetual. If the loss of time and labor occasioned in a single year by our present incongruous system could be determined, we venture to say that it would go a great way toward paying for the introduction of more convenient weights and measures, while the inconvenience incident to a change of systems would be greatly lessened, if the new system were previously taught in our schools.

If the advantages which the decimal system offers in all transactions of calculation and account were properly presented, and the convenience of the system fully understood and appreciated, there can be little doubt that it would receive the hearty support of all intelligent people.

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#### THE ABSURDITIES TAUGHT IN OUR SCHOOLS.

WE intend to give early attention to the errors and absurdities inculcated in the school-room, by publishing a series of articles with the above caption. Certain methods in teaching, from the alphabet to rhetoric; from the multiplication-table to Euclid; from Primary Geography to Geology, will need attention. To accomplish our purposes properly, we shall need the co-operation of the best teachers. To their pens we must look for aid. And we call upon them to assist us in pointing out what is wrong, and in explaining what is right. We have had too much "gentle, silver-tongued talking." Let us all go at the work with a will, and speak plainly upon what is defective. Thus we can accomplish great good. It may be urged that many absurdities grow out of imperfect and pretentious school-books. That there are trashy text-books, is too true; but that is no excuse for intelligent teachers. For it is also true that, of every thousand school-books published in America, some three or four are really meritorious. Let teachers select these, and use them in spite of all the blandishments of publishers, and the wiles of publishers' agents. A fearful responsibility is assumed by teachers who propagate the absurdities of some of our crazy book-makers.

## EDITORIAL CORRESPONDENCE.

GOTHA, February 16, 1866.

*The Celebrated Institute of Schnepfenthal.*

**D**URING these past months at Gotha, I have taken occasion to visit the celebrated institution of Schnepfenthal, where so many young lads have, during the past half-century, received the first elements of good knowledge, and their first initiation into the discipline of school-life. To me it has its great interest, because it was the place where Carl Ritter, the geographer, received his preliminary education, and the place where he loved to be, up to the latest days of his life. And even on his death-bed he did not forget Schnepfenthal, but sent his love and kind remembrance to an old school-friend living there, telling him again how fondly his mind reverted to the scenes and the companions of his youth.

As a school, Schnepfenthal came into existence amid the closing years of the last century. Its founder was the celebrated Salzmann, and one of its first chief teachers was the scarcely less celebrated Gutsmuths, both of them named among the most experienced educators of their age. The school came to the height of its reputation very soon after its establishment, and in the past eighty years it has well held its own, the principles which Salzmann introduced having been fully retained. Indeed, it has remained in his family: his own son was his successor, and his grandson now stands at the head, while two other grandsons are the two chief teachers. It is such a school that its like can hardly be found. It grew out of the reaction against middle-age ideas, and hence its course of study is thoroughly practical, the sciences and the modern languages taking the place which is generally given to the ancient tongues. The scholars are trained to habits not only of great diligence, but to hardihood and the utmost simplicity. Not that they pass through the discipline which converted Frederick the Great's muscles into steel when he was a boy, but they are toughened and trained to an astonishing degree of vigor. Walks of eight, ten, and twelve miles are ordinary excursions; and as they are generally made in quest of botanical, mineralogical, or geological specimens, and in the companionship of the gifted teachers, all of whom are men of eminence, these occasions are of as much profit as pleasure. Ritter was, as a boy, by no means remarkable for the strength of his constitution, but the daily regimen at Schnepfenthal soon made him able to walk his eight or ten miles, and even in the winter-time to lie for a half-hour on the ice, sunning himself, and yet taking no cold. Mr. Long, one of the teachers, and a grandson of Salzmann, is a man of such vigor that he has walked seventy miles in the course of a day, not to mention the odd miles which he walked in the city, to which he walked from Schnepfenthal, and from which he returned to his home before he slept. And truly, this beautiful Thuringian forest is one of the finest places in the world to establish a school, where an initiation into the beauty of this world, and into the riches of all the different natural kingdoms, can go hand in hand with the development of all intellectual and moral traits. The spot where Schnepfenthal lies, is one of the loveliest conceivable. Situated about eight miles from Gotha, it lies on a gently sloping eminence, which rises just beyond a broad, fruitful,



rolling plain. At the foot of this eminence is a vale, through which you may pass into the Thuringian forest. Nothing could be more lovely than the views which are afforded as one follows the little brook which issues from this valley, and traverses the Thuringian meadows. The mountains are not grand, although, in a few instances, they rise to a height of three thousand feet ; but gentleness, grace, softness of outline, and depth and variety of green, are their most striking characteristics. About a mile and a half up the valley, after leaving Schnepfenthal, the meadows widen, the mountains recede, and there is space gained for a palace for the Duke of Saxe Coburg Gotha, whose rare loveliness is confessed all over Germany. Its beauty is like the beauty of a dream. I have never seen its superior, rarely its equal.

In the midst of such scenes are the lads of Schnepfenthal trained, and the influence of them they generally carry away with them into the world. The whole life there is so simple, quaint, homely, childlike, that it rivets the very souls of the pupils ; and it is no wonder that those who are there now, are, to a not inconsiderable extent, the sons of those who, in former years, were trained in Schnepfenthal. What is theory elsewhere, becomes fact at Schnepfenthal, and such is the genuineness of the teachers, that their natures impress themselves upon, and are reflected in those of their pupils. That assumed dignity, or its reverse, that pretense of love to childhood which is consistent with the shrewdest and the coldest calculations, has no lodgment at Schnepfenthal. You would be pleased, my reader, if you could see these men ; notice the extreme simplicity of their apparel, often of genuine homespun stuff ; watch the kindness of their demeanor in all their dealings with the pupils ; see the good feelings and mutual confidence which prevails, and discover, with pleasure, that so far from any desire of taking advantage of this honorable confidence, there is the unvarying manifestation of those qualities which one wishes most to see.

So far as the imparting of knowledge is concerned, there is no secret possessed by Schnepfenthal teachers which is not known now, at any rate to the most experienced American educators. It need hardly be said that what we, in our stiff nomenclature call the "object-method," is the only one recognized here, and the only one which has been in use since the school was founded. The object-system is, of course, simply the method suggested by nature : it is the one which would be pursued by any teachers whose minds were not perverted by a false system, long cherished and traditionally received ; and to come to it, as we are doing in America, is to advance to nothing new, it is merely to get back to the method of Aristotle, of Socrates, nay, of Solomon, who discoursed of every thing, small and great, down to "the hyssop that groweth upon the wall." To speak of it as a new method is to overlook the wisdom of those who lived centuries ago, for we have lived to see a resuscitation of it, not a discovery. In Schnepfenthal, the object-method has been practiced for eighty years. From the founding of the school till the present day, all the studies which could be taught by familiarizing the eye and the senses of the pupils with the objects treated of, by them have been pursued by this method, all the natural sciences have been taught in this way, and those higher and more abstract studies which do not depend upon observed facts and phenomena observable in daily life, have been lightly passed over, as more suitable for manhood and matured powers, than for the immature mind of childhood. It

was, for example, at Schnepfenthal that Ritter learned how to study geography aright. It was not alone from the pages of a text-book, but from the illustrations furnished by the varied scenery of the Thuringian forest, that he learned how to understand the configuration of the earth. I have long known this of Ritter, but I have never before enjoyed the opportunity of seeing the place where he began to make those geographical generalizations which went on expanding his whole life long. In the pleasant Thurginian hill, varying from a thousand to three thousand feet high, he studied the characteristics of Alps and Himalayas. In the little Seine which meanders through the meadow before the school, Ritter found Volgas and Amazons. In the little lakelets which ornament the ducal gardens, he saw Superiors and Caspians. In the fertile plain which stretches from Schnepfenthal to Gotha, Ritter discerned prairies, pampas, and savannahs; in the high table-land of Saxe-Gotha he recognized a miniature Thibet or Mexico; in the Thuringian wood, the primeval forests of Maine and Oregon. In a word, he found every tract, every road and path of which he knew, to be a world; a microcosm; a field, where not only his soul could become habituated to forms of beauty, but where his mind could rise from simple forms to the largest and the grandest.

And thus it remains at Schnepfenthal to the present day. A great part of the instruction is given in the course of the wanderings made in quest of all the objects of nature. The observing and inquiring faculties are stimulated to the utmost, and there are few who are not enthusiasts in the pursuit of knowledge. The scholars are informed of the problems which interest the world, and are kept alive to all unsolved and urgent questions. I listened to one lesson in geography. The instruction was given, as is the German custom, orally, and without a text-book, the teacher keeping up a running fire of questions as to what he had gone over on preceding days. By thus keeping them alert, and touching on themes which have to do with immediate interests, the attention was fixed, and I have seldom seen the minds of lads more ready to receive what was given them than theirs. There was no secret to be learned. There was no new way adopted. There was an earnest man, entering into his subject, and making it thoroughly intelligible. That was all. The theme of the day was Mexico. He began with a review of North America, and I soon saw that all new discoveries, measurements of mountains, and phenomena generally known to the scientific world alone, were familiar to the class; the teacher brought all these things before the lads, discussed them with them, interested their minds in them, and so made them cling to the memory, and discipline the attention and judgment as well.

Schnepfenthal is what we call a boarding-school—that is, it stands by itself, there being hardly a village near, and the pupils are sent hither from their homes. They all dress alike; wearing, in the summer, a light and graceful suit of striped linen, and on Sundays a scarlet coat. The dress reduces all to a condition of equality, except of mental and moral gifts, and the question of high and low, rich and poor, gets no entrance here. It is an admirable feature, especially in this class-ridden country, and is worthy of the wise and excellent founder of the institution. And altogether looked at, in whatever light one will, here is an institution which may well stir one's enthusiasm, and elicit praise from the coldest. Men who have seen much of life, know that if we only go down deep enough,

we find enough and more than enough to criticise and condemn in all that seems fairest ; and we all know that as we grow old we find that we must always speak in cold and careful language. But I can not find it in my heart to do this of Schnepfenthal. Here is a school which may be held up as the attainment and realization of a high ideal ; as something which makes the dreams of a poet real ; a place where purity, simplicity, frankness, industry, and all the old homely, peaceful virtues go hand in hand—a real Arcadia. How long this will be the case no one can tell. A shrewd, managing spirit may yet display itself even there. The show and glitter, and sham of the great cities, may reach even its quiet and wholesome atmosphere, and Schnepfenthal may keep its name, but lose its nature. I trust it will not. For the sake of Salzmann, Gutsmuths, and the Lenzes, I hope it will not. For the sake of all that is good, true, permanent, and real, I trust that the place which nourished the mind and heart of Carl Ritter, will, for many generations yet to come, send forth men cast in the same mold, even if they may not attain his fame.

W. L. G.

NEW HAVEN, Conn., March 5, 1866.

MR. EDITOR : DEAR SIR—I was much interested in the scientific column of the current number of the MONTHLY. Allow me to say, however, in regard to the “eggs of Pharaoh’s serpents,” that they are decomposed on combustion not only into *mellon*, but also into the *sulphide of mercury*. As no decisive experiments have yet been made, much doubt is still expressed by good authorities, whether the substance of which they are composed is at all deleterious, when burning, or before ; though there is a possibility that a small portion of the mercury may be volatilized during the deflagration.

Very truly, MYRON N. CHAMBERLIN.

YALE COLLEGE, March 12, 1866.

MR. EDITOR—I feel sure that a republication of this circular in your EDUCATIONAL paper would be of interest to your readers, and would promote the cause of education.

Yours, very truly, H. A. NEWTON.

## [CIRCULAR.]

1. The decimal system of weights and measures which has the *metre* for its base, is in partial or exclusive use in nearly all of the countries of Europe, and its use is increasing.

2. In almost every department of science these weights and measures are sometimes employed, while in some departments all others are obsolete.

3. The terms of the system are gradually becoming more common, and will, doubtless, at no distant day, be met with in popular journals.

4. Preliminary steps have been taken by two different branches of the United States Government looking to the possible adoption in this coun-

try of this, or a similar system, in place of the incongruous weights and measures in use. In case of such an adoption by the Government, the necessary inconvenience, attending the change, to the people, will be very largely diminished, if the metrical system shall have been previously taught in the schools.

5. This system is, however, left out from many of our best arithmetics, and in most of the remainder, if not in all of them, it is very imperfectly developed.

We therefore respectfully urge :

1. That to the arithmetics now published an appendix be at once added, that shall contain a full explanation of the *metrical system of weights and measures*, and of their relation to the weights and measures now in common use, and that the whole be illustrated by suitable and numerous examples.

2. That in every *revised edition* of arithmetics now used, and in every *new arithmetic*, a proper development of this system have a place in the body of the work, and that in examples for practice occurring thereafter there be frequent reference to these weights and measures.

The metrical system of weights and measures is in exclusive use in France, Holland, and Belgium. Italy, Spain, Portugal, Greece, Mexico, and most, if not all, of the South American States have adopted it. In some of these countries, however, its use by the people is not compulsory. Parliament has legalized its use in the United Kingdom. Austria, Prussia, and the other German States have signed a convention agreeing to adopt systems of which the metre is the base. There is reason to believe that Russia, Sweden, and Denmark will follow the example of the other European States.

The legislature of the State of Connecticut, in June, 1864, recommended to school officers that this system be taught in the schools of the State.

## EDUCATIONAL INTELLIGENCE.

### NEW ENGLAND.

**MASSACHUSETTS.**—Hon. H. F. French, President of the Massachusetts Agricultural College, has just made his report for the last year to the legislature. Of the 860,000 acres of land granted to the State by Congress, for the benefit of agriculture and the mechanic arts, 186,480 acres have been sold for \$110,864. By act of the legislature, one-tenth of the income of the fund derived from the sale of the land scrip was allotted to the Agricultural College in payment of its farm; and one-third of the fund derived from the remaining nine-tenths was assigned the Institute of Technology, at Boston. From the tenth appropriated to the College, \$27,318 have been realized, and 3,680 acres remain unsold. \$5,129 have been received from the town of Amherst, which subscribed \$50,000

as a building fund. There may be difficulty in obtaining the rest of the Amherst subscription, as several taxpayers of that town have petitioned for an injunction upon the town authorities to restrain them from issuing town-bonds for the amount.

—The work of increasing teachers' salaries goes on well in this State. Lowell and Charlestown have added a large percentage to the salaries given last year.

—During the past year Harvard College received \$166,929, and expended \$154,240. The donations during the year include \$50,000 from Samuel Hooper, \$10,000 from Tyler Bigelow, and \$3,000 from Dr. Alexander Thomas. The present library building is stated to be much too small, and the librarian, in his report, asks for an appropriation of \$200,000 for a new building.

**CONNECTICUT.**—The new library build-

ing of the Wesleyan University, at Middletown, will be built next summer, and will probably cost about \$40,000.

**RHODE ISLAND.**—The citizens of Providence are about to establish a Musical Conservatory after the general model of the institutions in Europe. The institution is in operation under Professor Tourjee, and \$40,000 have been subscribed for the erection of a proper building, which will be begun as soon as \$50,000 have been raised.

### MIDDLE STATES.

**NEW JERSEY.**—A new college building, in place of the one recently destroyed by fire, is to be erected at Seton Hall, South Orange, to cost \$50,000. Toward this sum there are \$19,000 insurance, and \$4,000 of materials on hand. Bishop Bailey will order a general collection of \$10,000 throughout the diocese. The balance, it is hoped, will be raised from the friends of the institution.

—The grand-jury of Mercer County have presented the students of Princeton College for their lawless conduct.

**NEW YORK.**—The report of the Superintendent is at hand. In the State there are 11,618 school-houses, valued at \$9,945,923. During the year, \$799,000 were expended on buildings. In the school libraries there are 1,278,213 volumes, whose reported value is \$624,000, which the Superintendent thinks far too low. The whole number of teachers employed in the State is 26,469, and the number of pupils, 1,007,787, of whom 916,617 attend the common-school. The statistics tell a sad story of the average attendance; while 916,000 children are on the rolls, only about 400,000, or nearly 45 per cent. are in regular attendance. The report refers to the matter thus: "The time may come when compulsory attendance may be necessary, but this should be the last resort. The schools should be made attractive, and the methods and results of instruction so desirable, that truants and absentees will voluntarily seek the school-room." In New York city compulsory attendance has been in a measure introduced. During the year the whole amount of money raised for support of common-schools was \$6,252,242, of which the actual expenditure was, \$5,735,460, being an increase of \$1,185,589 over the preceding year. The Superintendent strongly recommends abolishing the "rate-bill," and making the schools absolutely free; supporting them by taxation.

—At a late meeting of the Board of Education of New York city, a report was received from the Finance Committee, embodying the following resolutions:

*Resolved*, That the sum of \$2,406,921.69 of the school-moneys for the year 1866 be, and the same is hereby appropriated for the several purposes herein named, and

paid as may be required, subject to the by-laws, rules, and regulations of the board governing payments—viz:

|                                                                                                                                                              |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| For overdraft on the city chamberlain, 1865 .....                                                                                                            | \$79,480.11  |
| For payments on special appropriations for amount of liabilities on appropriations for 1865 .....                                                            | 173,941.58   |
| For salaries of teachers in ward-schools .....                                                                                                               | 1,865,000.00 |
| For salaries of juniors in ward-schools .....                                                                                                                | 65,000.00    |
| For incidental expenses of ward-schools, including fuel .....                                                                                                | 150,000.00   |
| For incidental expenses of ward-schools for ward-bills of 1865, balances due wards .....                                                                     | 2,500.00     |
| For support of Free Academy, .....                                                                                                                           | 100,000.00   |
| For repairs of Free Academy, .....                                                                                                                           | 5,000.00     |
| For support of evening-schools .....                                                                                                                         | 95,000.00    |
| For repairs through shop (materials and wages) .....                                                                                                         | 10,000.00    |
| For supplies through the depository .....                                                                                                                    | 175,000.00   |
| For rents of school premises. .....                                                                                                                          | 25,000.00    |
| For salaries, superintendents, clerks, etc. ....                                                                                                             | 50,000.00    |
| For incidental expenses of the Board of Education, printing, rent of stable and storehouse, horse feed, fuel and gas for ward and evening schools, etc. .... | 60,000.00    |
| For apportionment to corporate schools .....                                                                                                                 | 85,000.00    |
| For support of normal-school, .....                                                                                                                          | 8,000.00     |
| For pianos for ward-schools. ....                                                                                                                            | 5,000.00     |

Total .....

*Resolved*, That the sum of \$47,405.85, being the balance of the school-moneys for the year 1866 unappropriated, be reserved and set apart, and paid, as may be required upon appropriations previously made for all purposes for which the school-moneys of the year have not been appropriated.

The report was received, and resolutions adopted.

A resolution was adopted requesting the comptroller to place to the credit of the board the sum of \$500,000, for school purposes for the current year.

**PENNSYLVANIA.**—By the report of the State Superintendent for last year, it appears that the whole number of children in attendance in the common-schools of the State, is 629,537, a decrease of 8,000, as compared with the year before. The percentage of attendance is only .628. In other words, nearly four out of every ten pupils, whose names were on the roll for 1865, were constantly at home. The percentage of attendance is much better than that in New York.

—Mr. A. Pardee, of Hazleton, Luzerne County, has offered \$100,000 to endow a scientific department in Lafayette College,

on condition that the small balance of the original endowment fund of the college be secured, and suitable buildings be erected for the new department and its students. It is believed that both will be accomplished or secured within a short time.

—The Rev. John E. Graeff, of Philadelphia, has presented to Pennsylvania College a fine telescope made by Merz & Son, Munich. It is of nine feet focal length.

#### WESTERN STATES.

**MISSOURI.**—A free-school bill, making equal endowment, but separate schools, for white and colored children, has passed the House of Representatives.

**INDIANA.**—The "Congressional Township School-fund" now amounts to \$2,128,227, with 84,892 acres of land yet unsold. The revenue from this, distributed in 1865, was \$147,988.

**TENNESSEE.**—At a late teacher's convention, the Superintendent of Schools stated, that over 80,000 white people in the State can neither read nor write.

**MINNESOTA.**—A bill, appropriating \$10,000 for the erection of a State normal-school building at Winona, has passed the legislature.

**CALIFORNIA.**—The amount of money accruing to the school fund on January first, and subject to apportionment, was \$182,774. The amount per child, was \$1.89, there being 95,137 children entitled to apportionment.

#### SOUTHERN STATES.

**VIRGINIA.**—Mr. McCormick, inventor of the reaper and mower, has sent General Lee \$10,000 to establish a McCormick professorship of Practical Mechanics.

#### EUROPE.

**ENGLAND.**—There is one instance of a person holding a college presidency even

longer than the late Dr. Nott, of Union College. The Rev. Martin Joseph Routh, D.D., was elected President of Magdalen College, Oxford, in 1791, and so continued until 1854, when he died, aged ninety nine.

**FRANCE.**—The following passage occurs in the Emperor's opening address: "The Budget of the Public Works, and that of Education, have not undergone any diminution. It was of use to preserve to the grand enterprises of the State their fertile activity, and to maintain the energetic impulse of public instruction."

**ITALY.**—The Italian finances are in a wretched condition. Reductions are made in every department, extending even to the Ministry of Public Instruction, where 5,000,000 francs are to be saved, although every patriot desires to spend more for educational purposes. The nineteen universities are to be reduced to six, at Turin, Pavia, Pisa, Bologna, Naples, and Palermo. The remaining thirteen, even those of Genoa, Cagliari, and Catania may continue as municipal universities, if the municipal and provisional councils are ready to support them, but the Government subvention for them ceases in future, and academical degrees conferred by them will be void, all the students being hereafter obliged to graduate at one of the six government universities.

**RUSSIA.**—The Czar has addressed a rescript to the governor of Warsaw, promulgating a series of educational measures to be carried out in Poland. Superior and elementary schools are to be established for Poles, Greeks, and Russians, and separate schools for Germans and Lithuanians. All scholars will be taught the Polish and Russian history and languages. The religious instruction will be intrusted to the secular clergy of each respective denomination.

### CURRENT PUBLICATIONS.

TO supply the want of a proper text-book in anatomy and physiology, Dr. Draper has published the lectures annually delivered to his classes in the Free Academy.<sup>1</sup> He adopts the division of the subjects offered by his father, Dr. J. W. Draper, and discusses the various topics in a popular manner. He accepts his father's theory

of circulation, which places the cause of the movement in the capillaries, and regards it as capillary attraction. This theory is based upon the facts that the heart does not exert sufficient force to drive the blood through the veins and capillaries; that the portal circulation is carried on without a heart, and upon the existence of scardiac monsters. It has been received with great favor by the leading English and German physiologists, but has been little countenanced by American investigators. There are many objections to it, but the explana-

(1) A TEXT-BOOK OF ANATOMY, PHYSIOLOGY, AND HYGIENE. BY JOHN C. DRAPER, M.D., Prof. of Nat. Hist. and Phys. in N. Y. Free Academy and of Analyt. Chem. in N. Y. University. New York: Harper & Bros. 8vo, pp. 300. \$3.50.

tions afforded of the portal circulation and exceptional cases give a force to Dr. Draper's theory altogether wanting in the old hypothesis.

Prof. Draper rather belongs to the conservative school of physiologists, and is not ready to admit innovations. He holds that the red corpuscles of the blood are originally the nuclei of the leucocytes, and, therefore, developed from them, although Longet has shown that the disks exist at the earliest period of life, before the leucocytes make their appearance. He also maintains that the disks die and are disintegrated by the spleen; in this agreeing with Kölliker and Carpenter. The more modern school of investigators, represented in this country by Drs. Dulton and Flint, look upon the blood-disks as regularly organized anatomical elements, which are subject to the same laws of molecular waste and repair as other portions of the body. The researches of Dr. Henry Draper, quoted by our author, throw much light on this obscure point, and tend to confirm the observations of Kölliker. Prof. Draper adheres to the theory of Liebig and Draper, Sr., that the fats and sugars are merely respiratory elements, combustibles, to be employed in the production of animal heat. Until very recently, this hypothesis was universally received, but the investigations of Robin and Verdoil, Dutrochet and others have thrown discredit upon it.

Although we think Prof. Draper is somewhat too conservative, yet, as physiology is only in its infancy, his opinion may eventually prove to be right. He has certainly shown that his judgment is worthy of respect. His researches upon insensible perspiration, respiration, and urea, all of which are given in this work, justly entitle him to a high position among experimental physiologists.

The division devoted to hygiene is far superior to any thing we have ever seen in similar works. Instead of superfluous matter, useful only for filling up, we have here a well-digested mass of valuable information. The author is caustic in his animadversions upon the present method of cramming children with indigestible food, when they "should be in the nursery partaking of pap, with a little bread and meat, if it is desired to have them grow up into healthy adults." He is especially pointed with reference to ventilation, and gives

much the same advice as that offered in the MONTHLY some time since. The remarks about plagues and prophylactics are valuable in view of the near approach of cholera. As a text-book for students, or as a book for the general reader, Prof. Draper's work has few equals; indeed, we know of no work now before the public so desirable for popularity of style combined with scientific precision.

In his new work,<sup>1</sup> Dr. Flint intends to treat of pure human physiology. The first volume, just issued, embraces the subjects, blood, circulation, and respiration. The introduction is a comprehensive statement of physiological chemistry, discussing the nature and characteristics of the proximate principles with great clearness, and giving the various analytical processes more carefully than is usual. The chapters on blood and circulation contain much matter rarely found in works of this size. The effects of transfusion, and the merits of different investigations, concerning the amount of blood in the body, are detailed in an attractive manner. A simple method of estimating quantitatively the organic principles of the blood, is given in Chapter II., and will readily recommend itself to all. Dr. Flint adheres to the theory, that circulation in the capillaries is produced principally by action of the heart. This seems hardly to meet the case, as the walls of the smaller blood-vessels can scarcely sustain the pressure. Dr. Draper's theory, which has been adopted by Carpenter and other leading physiologists of Europe, refers the force in great measure to capillary attraction. This theory is open to no serious objection, and is better able to explain many local phenomena. Liebig's hypothesis, that the sugars and fats are merely respiratory elements, is quietly refuted by Dr. Flint in the discussion of those principles.

In publishing this work, it is Dr. Flint's purpose to give a practical treatise, which shall present only what is actually known. He therefore usually avoids the discussion of purely theoretical or historical questions as unnecessary and embarrassing. He has been at pains to verify by experiment the statements of other physiologists, and thus

(1) THE PHYSIOLOGY OF MAN. BY AUSTIN FLINT, JR., M.D., Prof. Phys. and Microsc. in the Bellevue Hosp. Med. Coll., etc. New York: D. Appleton & Co. 8vo, pp. 602. \$4.50.

has rendered his work authoritative. The language is concise and accurate, the style reminding one of Dr. Dalton's work. The text is singularly free from egotism, the author's numerous investigations being modestly referred to in foot-notes. The work is to be issued in four annual instalments, each of which will embrace certain topics, and will be complete in itself. The amount of matter in the part now published is comparatively small, as the type is large and the margin wide. The price is, therefore, in our judgment, excessive, and will tend to keep the book from students, for whose use it is especially adapted.

THE Graham lectures, like the "Boyle Lectures" and the Bridgewater Treatises," are designed to show the "Power, Wisdom, and Goodness of God" by proofs drawn directly from nature. The fourth volume contains six lectures, by Prof. Agassiz, on the structure of animals. In a popular manner the lecturer discusses the different plans of structure, the gradation among animals, the remote antiquity of animal life, together with the triple coincidence in the succession, gradation, and growth of animals, and concludes the course by giving the evidences of an intelligent and creative mind in the plans and variations of structure.

The especial feature of these lectures is the effective, yet inoffensive, method of refuting scientific errors. Thus, in lecture third, the immense antiquity of animal life is distinctly proved, yet the whole argument is so devoid of bitterness, that the staunchest advocate for a literal interpretation of Genesis, chap. i., can hardly take offence. Those philosophers who maintain that the line of development from the monad to man is unbroken, will find food for reflection in the second lecture. The exceedingly pompous preface by the officers of the Brooklyn Institute, under whose auspices these lectures are delivered, in no way enhances the value of the book. It might be well to omit it in future editions. The work is elegantly printed on tinted paper, but the illustrations are after a very primitive model.

all the weight of his great name and learning, that "a competent knowledge of the laws of the society in which we live, is the proper accomplishment of every gentleman and scholar." But this opinion was given more than a hundred years ago. Since that time a great empire, abounding in every thing that is calculated to make a nation prosperous and powerful, and teeming with a population of refugees, exiles, and emigrants from other countries, and their descendants, has deemed it expedient to try the experiment of intrusting all its hopes to its people—all its people—and not exclusively to "gentlemen and scholars." Such is our government, and, consequently, every citizen in it has a holy trust and a sacred duty to perform. The humblest elector among us has more or less to do with making and altering the laws by which our rights are enforced and our wrongs redressed. Consequently, it is more than "the proper accomplishment of every gentleman and scholar," it is the clear duty of every citizen to acquire "a competent knowledge" of our laws and government. If there ever was a government which deserved to be studied and understood, that government is ours. It is not too much to say that the prosperity, safety, and glory of our country, as well as our own individual happiness, depend upon the intelligence of the masses. Ignorant electors will often choose bad legislators and suffer from hurtful laws; it can not, in the nature of things, be otherwise. To bring home, therefore, to the understanding of all, such information as they should possess, ought to be and is an object worthy of the greatest minds. Dr. Wedgwood's work seems to have been prepared with great care and discrimination, and is, in our judgment, precisely what has long been needed in every American home. He has presented with singular success a complete and comprehensive view of the governments of the several States, as well as of the General Government, together, with a summary of all the general principles of law, now in force in the several States, and applicable to, and useful in, the ordinary transactions and business affairs of life.

SIR WILLIAM BLACKSTONE ASSURES US, with

(3) THE STRUCTURE OF ANIMAL LIFE. Six Lectures. By LOUIS AGASSIZ. New York: C. Scribner & Co. 8vo, pp. 128. \$2.50.

(4) THE GOVERNMENT AND LAWS OF THE UNITED STATES. By Prof. WM. B. WEDGWOOD, LL.D. New York and Philadelphia: Schenckhorn, Bancroft & Co. 8vo, pp. 417. Leather. Price \$5.



## SCIENCE AND THE ARTS.

—M. Frantz, a metallurgist, and M. Henri Faure have announced that they have discovered a method for transmuting silver, copper, and mercury into gold: all these, they say, being only one and the same metal in different dynamic states.

—Engraving upon glass has hitherto not unfrequently been effected by the use of fluoric acid, which often produces dangerous wounds when by accident it comes in contact with the skin. M. Henri Sainte-Claire Deville has recently exhibited to the Academy of Sciences of Paris, some very fine examples of glass-engraving executed by means of a solution of fluoride of calcium in hydrochloric acid, with which there is no such danger. The results obtained by this method are said to be exceedingly satisfactory.

—Stone is now sawn in France with great rapidity and economy by means of a perforated disk of iron, on which a coating of lead has been cast, the perforations serving to connect and bind together the plates of lead thus formed on the two sides of the disk. The lead is kept well covered with emery, which falls on it from a reservoir above.

—A method of coating wood with a varnish hard as stone has been recently introduced in Germany. The ingredients are forty parts of chalk, forty of resin, four of linseed oil, to be melted together in an iron pot. One part of native oxide of copper, and one of sulphuric acid, are then to be added, after which the composition is ready for use. It is applied hot to the wood with a brush, in the same way as paint, and as before observed, becomes exceedingly hard on drying.

—The works of Mr. Krupp, in Prussia, the largest steel-maker in the world, in 1852 produced 68,000 tons; in 1861 the production was 454,000 tons, and in 1865, the works turned out nearly 2,500,000 tons of steel. This immense establishment contains 350 casting places and muffles, 136 steam-engines, 81 steam-hammers, and other appointments in like proportion.

—It has been somewhat too hastily said that coal is formed directly from wood, and that much of it is found to retain its woody structure. There is great doubt on this point. That wood may be eventually converted into coal is admitted; but in changing, it entirely loses the form of wood—retains no evidence of fiber. It may, under the influence of heat and moisture, be converted into a bituminous mass, which is eventually consolidated into coal; but we can not discover any evidence of wood being transmitted directly to coal. The remains of woody trees found fossil in the coal-meas-

ure strata, may become limestone, may be iron ore—certain it is they are never coal.

—No less than fifteen hundred species of insects live upon the oak; and five hundred live upon them as parasites. Most of the fifteen hundred live upon the leaves, some eat into the wood itself, and others mine in and under the bark.

**ELECTRICITY AS A MEANS OF TAKING CORRECT SOUNDINGS IN DEEP WATERS.**—In taking deep-sea soundings, the great difficulty is to determine the exact moment at which the lead touches the bottom. It is now proposed that the sounding-line should be a kind of light telegraph cable, which, by means of the electric current, could be made either simply to give warning, by ringing a bell or otherwise, of the lead having touched the bottom, or to put in action an automatic brake, and so prevent any more line passing into the water.

—A new color is reported by the Parisian journals, as produced from coal-tar. It is called *sunthine*, and occupies a medium position between the deep purple and the brightest rose-color.

—A portion of the mud brought up from the bed of the Atlantic by the ropes and propellers employed to raise the Atlantic cable after it had parted, has been subjected to microscopical examination, and found to be almost the same as the chalk from Dover. It is made up entirely of organisms chiefly in fragments, and has all the appearance of a chalk-bed in process of formation. This is merely an additional proof to an old theory; but as a project is suggested, and will probably be carried out, for compiling a complete list of all the species found in the mud, a considerable interest to science may be made.

—M. Trécul has recently given an account of some observations, showing that plants are sometimes formed within the cells of other plants. In the bark of the elder, and in plants of the stone-crop order, he finds vesicles full of small tetrahedral bodies containing starchy matter, which he has observed to become gradually transformed into minute plants by the elongation of one of their angles.

—Before remelting cast-iron it is often necessary to reduce large masses of it to pieces. The following is a simple and ingenious mode of producing the required fracture: A hole is drilled in the casting for about one-third of its thickness, and filled with water. It is then closed with a steel plug, which is accurately fitted, and the ram of a pile-driver is let fall upon the plug. The first blow separates the casting into two pieces.

—A new island began to rise above the level of the sea in the Bay of Théra (Santorin) in the Grecian Archipelago, on the fourth of February; and, in five days, it attained the height of from one hundred and thirty to one hundred and fifty feet, with a length of upwards of three hundred and fifty feet, and a breadth of one hundred feet. It continues to increase, and consists of a rusty, black, metallic lava, very heavy, and resembling half-smelted scoria which has boiled up from a furnace.

—The supply of emery has, within a short time, been (prospectively) doubled. Hitherto two places—Cape Emery, in the island of Naxos, and the neighborhood of Syrnna—have furnished near all the emery used. A few months ago a mine was discovered in North Wales, and another, perhaps the most important deposit of the kind in the world, has just been found near Chester, Massachusetts. This latter yields emery of the finest kind, and which does not rust upon exposure to the air. It is also reported to be capable of doing one-third more work than any other emery in the world. Its non-liability to oxidation also gives it great superiority. This mine is now worked or preparing for work, and instead of "Turkish" emery being the favorite brand, "American" is likely to take its place.

#### SUBSTITUTE FOR THE MAGNESIUM LIGHT.

—M. Sayers has recently discovered a substitute for the magnesium light, which promises to be of much service to photographers. Twenty-four parts by weight of nitrate of potash, seven parts of flowers of sulphur, and six parts of red sulphide of arsenic, are thoroughly mixed. This composition, when set on fire, affords a most brilliant light, and the negatives produced with it give excellent positives. The contrast between the lights and shades, which, with artificial light, is apt to be very great, may easily be softened down by igniting at once two portions of the mixture; one, the more powerful, to light up the subject, and the other to modify the tones. It has been found that about half a pound of the mixture will afford light for half a minute.

—It has been found that the process by which crystals may be produced on plates of glass, and their designs then etched into that substance, so elaborately studied by Kuhlman, affords beautiful objects for the magic lantern, the difference between the roughened and smooth portions producing on the screen all the distinction between black and white, with every variety of half-tone and gradation.

**A VOLCANO IN SOUTHERN BRAZIL.**—Captain Richard F. Burton, the English traveler, writes to the *Anglo-Brazilian Times*: I was canoeing down the river of Iguaçu, when, calling on the excellent vicar of Xirica, M. J. Gabriel da Silva Cardoso, and

looking over his parish register, I was struck by the name of a place—Hill that Explodes. On the other side of the river, bearing southwest from the vicarage, rose the Morrow, clothed with trees, an isolated gradual cone, with a distinctly volcanic outline. Its northern face is, I was told, a perpendicular rock. The fearful rains of January, 1864, prevented my ascending the Exploding Hill. But the result of many local inquiries was that as lately as fifteen years ago, flame has been seen rising from the hill, and the phenomenon was accompanied by rumblings or explosions which extended across the river to the opposite range of Bananal Pequeno. You will, I hope, hear from me again. Should this report of a dormant volcano in Southern Brazil be confirmed by absolute exploration, the discovery will be of no little value in a geographical point of view. And these lines may perhaps—should I be unable to carry out my project—induce another and a better man to undertake the task. It is not, you will remember, half a century ago, when the scientific of Europe declared that no volcanic formations, and certainly no volcanoes could be found in this magnificent empire.

**A SHIP OF THE SECOND CENTURY.**—In the course of digging a trench for military purposes, during the late Danish war, the workmen came upon boggy soil, and at a depth of five feet, discovered the remains of a very ancient ship imbedded in the bog. The site is now some distance from the sea (at Wester-Satrup, in Sundewitt Bay); but at the time when it was deserted, it was no doubt "run up" on the beach. It is of oak, but in so very defective a condition, that it had to be strengthened with iron bands before it could be removed to Flensburg, where it may now be seen. The keel is bent upward at both ends, after the fashion of a modern gondola, rising to a height of nine feet ten inches in the bows, and ten feet eleven inches at the stern. The total length is seventy-nine feet ten inches, by a width of eleven feet ten inches in the waist, by a height of four feet two inches. There appears to have been no deck, but several lockers were found, some of which contained bones of animals. Besides this were discovered a number of spears, bows, arrows, battle-axes, wooden clubs, knives, etc.; but, what was more important, some coins were found, which gave the date of the time when this ship floated, not only on the Baltic, but perhaps to the distant shores of Britain. The coins are Roman, and of the second century, A. D.; and there were also bracelets, rings, and other ornaments, besides cooking utensils, etc. All these articles are now in the Archaeological Museum at Copenhagen, but the ship itself the Danes were unable to get away before they had to give place to the advancing Austrians.

—A fossil spider has been found in a shale from the "coal measures" of Upper Siluria. Hitherto spiders have not been found in any rocks older than the Jurassic.

**WINDOW FOR THE ILLUMINATION OF A PHOTOGRAPHER'S DARK ROOM.**—Obernetter mixes an acid solution of sulphate of quinine with some gum or dextrine, and paints the mixture over a thin sheet of white paper. With this he covers the window panes, and

he states that on the brightest day the window so prepared will allow no actinic light to pass.

—The astronomers have discovered that it is not such a very rare thing for February to be without a full moon after all. The same thing happened in 1847, nineteen years ago; and it is computed that the phenomenon must occur about once in twenty-three years on an average.

## MISCELLANY.

—The iron mountain of Missouri is said to be the geographical centre of the United States. It is an almost solid mass of specular iron ore, rising from a level plain two hundred and sixty feet. Its base covers five hundred acres. The ore contains sixty-seven per cent. of iron. It may very appropriately be called the Hub of the Union.

—Nobody likes to be nobody; but everybody is pleased to think himself somebody. And everybody is somebody; but when anybody thinks himself to be somebody, he generally thinks everybody else to be nobody.

—The oldest man in America is probably Joe Penno, born in Lower Canada, and now living in Kansas City, Missouri. He does not know his exact age, but is at least one hundred and twenty, as he was a man when Montgomery invaded Canada in 1775. He was at that time in the woods splitting rails. For fifty years after the Revolution, he was employed as a trapper beyond the Mississippi. He served under General Jackson, at the battle of New Orleans in 1815. Old as he is, he is in fine health, and busies himself in the care of his house and garden.

—Up to the year 1860, no less than fifty wells had been sunk in the Sahara Desert, by the French. The total quantity of water given by these wells amounts to 7,920,000 gallons per day.

—A ferryman, while plying over a river which was only slightly agitated, was asked by a timid lady in his boat, whether any persons were ever lost in that river. "Oh, no," said he, "we always finds 'em agin the next day."

—Colonies of Swiss are settling in the northern part of Patagonia. The soil is reported as fertile, and well adapted to the raising of cattle.

—When youth made me sanguine, I hoped mankind might be set right. Now, that I am very old, I sit down with this lazy maxim, that unless one could cure men of being fools, it is to no purpose to cure them of any one folly, as it is only making room for some other.—*Horace Walpole.*

—The San Francisco *Mining Press* mentions the discovery at Los Angeles, of oil-springs of a mineral substance, possessing all the qualities of writing-fluid. When first used, the color is a deep, rich black, but after exposure to the air, the color moderates a little, still retaining a good, and to all appearances, durable color.

**PATRICK HENRY.**—Books are great helps, but there have been great men who were never helped by them. Patrick Henry was no scholar, and read scarcely any thing. On a visit to Jefferson, one fall, he told him that he had been thinking he would read the coming winter, and asked him to lend him a book. Jefferson lent him a volume of Hume's *Essays*. The next spring he carried it back, unread, saying that he had tried to read it two or three times, but could never get through more than a page or so, before falling asleep.

**A BULL.**—"If a plain reader can enjoy such passages, and at once understand their meaning, he is one of a thousand who can not, or who are disgusted with such absurdities of language."—*Extract from a Review of Tuckerman's Essays, in the Round Table, March 10.*

—Enny boddy kan tell whare lightning struck last, but it takes a smart man tew find out whare it iz a going tew strike nex time—this iz one ov the differences between larning and wisdom.

—The new President of Union College is the Rev. Laurens Perseus Hiskok, D.D., who was born at Danbury, Connecticut, on December 22, 1798; graduated at Union

College in 1820; and devoted himself to theology, first as a preacher in Connecticut, and afterward as a professor in various colleges. In 1852 he was chosen Professor of Mental and Moral Science, and Vice-President of Union College. Dr. Hickok is the author of several religious and scientific works. His election to the presidency of Union College was unanimous.

—The public look upon the editor's labors as the Indian did upon the man who was cutting hay. He gave his opinion that it "was nice to see the white man mow."

—Sir Isaac Newton being asked why he never smoked, replied, "I will not make to myself any necessities."

—Dr. Franklin said that revivals in religion always made him think of a scarcity of grain; those who had enough said nothing about it, while those who were destitute made all the clamor.

—A countryman in Savannah, Ga., observed that a gang of darkeys were working on the streets, each wearing a ball and chain. He asked one of them why that ball was chained to his leg. "To keep people from stealing it," said the darkey; "heap of thieves about here, massa."

—Let a man but stand upright, and he is sure to have the whole earth at his feet.

—Unrighteous gain has destroyed millions, but has never made one man permanently prosperous and happy.

—It seems strange that so small a neck of land as the Isthmus of Panama, and occupying so important a position, should never have been thoroughly explored. But a new discovery has been recently made there, by which the land transit can be reduced to fifteen miles. By taking advantage of the Gulf of St. Blas, on the Atlantic side, and the Gulf of Bayonos, on the Pacific, a road can be constructed of fifteen miles length across the isthmus, and the grade, it is said, will be easy, as there is a dip in the mountain chain over which it must be carried.

**THE DUKE AND THE BISHOP.**—When traveling, the Duke of Roquelaire used a very mean equipage, and dressed in a shabby manner. Passing through Lyons in this guise, he was observed by the bishop of the diocese, who was afflicted with an insatiable desire for news. The bishop, seeing a strange traveler, of mean appearance, thought he had only a plebeian to deal with, and wishing to gratify his ruling passion, cried out, "Hi, hi!" Roquelaire immediately ordered his postillion to stop, and the curious prelate advancing to the carriage, demanded, "Where have you come from?" "Paris." "What is there fresh in Paris?" "Green peas." "But what were the people saying when you

came away?" "Vespers." "Goodness, man! who are you? What are you called?" "Ignorant and uneducated people call me hi! hi! but gentlemen term me the Duke de Roquelaire. Drive on, postillion." The duke passed on, leaving the astonished bishop staring after the carriage.

—"I see villain in your face," said a judge to a prisoner. "May it please your lordship," replied the prisoner, "that is a personal reflection."

—The Duphingleberry Debating Society, having dismissed the question, "Where does fire go to, when it goes out?" have got a new and more exciting one—"When a house is destroyed by fire, does it burn up, or does it burn down?" There will probably be a warm debate on this question.

—There was much sense and propriety in the text which an ancient clergyman chose for a wedding sermon. It was taken from the Psalms of David, and read thus: "*And let there be peace while the moon endureth.*"

—A young person once mentioned to Dr. Franklin his surprise that the possession of great riches should be attended with undue solicitude, and instanced a merchant who, in possession of unbounded wealth, was as busy and much more anxious than the most assiduous clerk in his counting-house. The doctor, in reply, took an apple from the fruit-basket, and presented it to a child, who could scarcely grasp it in his hand. He then gave it a second, which filled the other hand, and choosing a third, remarkable for its size and beauty, he presented that also. The child, after many ineffectual attempts to hold the three apples, dropped the last on the carpet, and burst into tears. "See," said the philosopher, "here is a little man with more riches in the world than he can enjoy."

—An English paper advertises "A piano for sale by a lady about to cross the Channel in an oak case with carved legs."

—The following Internal Revenue Taxes, returned by the principal manufacturers of cabinet organs, harmoniums, melodeons, and similar instruments, for the months of October, November, and December, 1865, are of interest, as showing the amount of business done:

|                           |                 |
|---------------------------|-----------------|
| Mason & Hamlin            | .....\$6,892.92 |
| George A. Prince & Co.    | .....3,189.86   |
| S. D. & H. W. Smith       | .....2,522.76   |
| Carhart, Needham & Co.    | .....2,177.16   |
| Esterly & Co.             | .....1,216.18   |
| X. Spang                  | .....987.12     |
| Taylor & Farley           | .....983.07     |
| B. Shoninger Melodeon Co. | .....925.66     |
| Peloubet & Son            | .....898.14     |
| Jewett & Goodman          | .....771.73     |
| Trent & Linsley           | .....769.20     |
| Kinnard, Dreher & Co.     | .....498.72     |
| A. C. Chase               | .....436.03     |
| H. B. Phelps              | .....343.50     |

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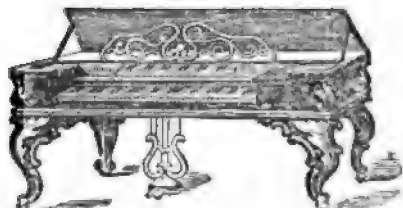
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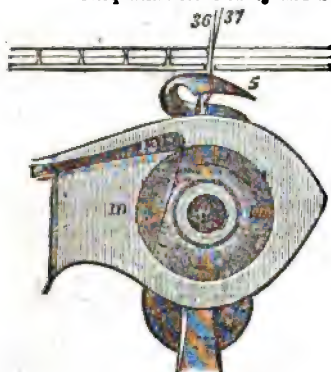
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It will seam, quilt, gather, hem, fell, cord, braid, bind, and perform every species of sewing, making a beautiful and perfect stitch, alike on both sides of the article sewed.

### A CURIOSITY FOR LADIES.

There is on exhibition at the Sales-room of Messrs. WHEELER & WILSON, 625 Broadway, the first Sewing Machine (No. 1,) made by that Company, the present number being about 220,000. Let the interested compare the machine sold in 1851 for \$125 with those now offered for \$55. The former owner of this machine gives its history as follows:

This machine was finished early in 1851, and I learned its use from Mr. Wilson himself. I was thus, you see, the first to work the Wheeler and Wilson Machine, and learned on the first machine they ever manufactured.

In 1854 I earned with the machine \$295, beside doing my own housework and taking care of my baby. In 1856 we came to Davenport and brought the machine with us. I believe it the first machine ever brought to Iowa.

I run that machine almost constantly for more than fourteen years, on all sorts of work, from the finest dressmaking to the heaviest tailoring; I quilted a full sized white bed-spread with it, which has been exhibited three times at the fair. It took me three weeks to do it with my other work; but it could not have been done by hand in so many years. I have even stitched leather with it, and at the time I exchanged it (in 1865) for No. 193,320 it worked just as well as when made.

It is perhaps unnecessary for me to add that I believe the Wheeler & Wilson to be vastly superior to any other machine made.

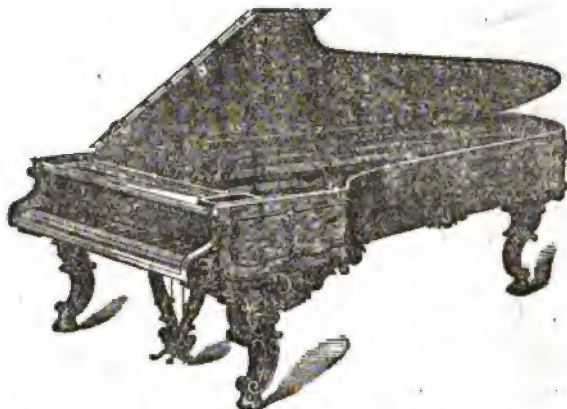
Yours respectfully,

P. E. B.

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which, for quality, strength and purity of tone, delicacy of action, and general style of finish are unsurpassed by any Piano now offered to the public. This fact has been attested to by the leading artists of this country and of Europe.

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Leo. De Meyer,  
Alfred Jaël,  
H. Sanderson,  
R. Hoffman,  
G. W. Warren,  
W. Scharfenberg,  
Otto Dressel,  
J. C. D. Parker,

J. M. Wehli,  
S. Thalberg,  
Gustav Satter,  
J. N. Pychowaki,  
J. Benedict,  
M. Strakosch,  
Joseph Burke,  
H. Leonhard,  
G. F. Bristow,

Julien,  
Arthur Napoleon,  
F. Gilder,  
E. Muzio,  
Mme. Louise Abel,  
C. Bassini,  
Frederick Rakeman,  
B. J. Lang,  
Jerome Hopkins,

Joseph Poznanski, and many others.

# AMERICAN Educational Monthly.

DEVOTED TO

Popular Instruction and Literature.

MAY, 1866.



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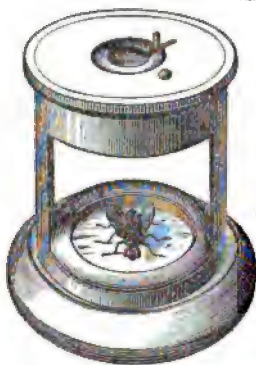
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## ANCIENT INSCRIPTIONS.

**D**URING the present century many scholars, among them Mariette, Opput, Rawlinson, Hincks, and Talbot, have made the cuneiform and hieroglyphic inscriptions found in Asia and Egypt a subject of special study. They have deciphered many of them, and have brought to light much historical information.

To test the accuracy of the system by which inscriptions are deciphered, one containing nearly a thousand lines of cuneiform writing was sent to four Assyrian scholars. The translations when returned were found to coincide exactly in dates, names, and general signification. It might be asserted that this coincidence would result, even if the system of interpretation were false, as all the scholars had worked upon the same system. This objection was lately removed by a striking confirmation of one of Sir H. Rawlinson's translations. Twelve years ago he read upon an Assyrian monument, that two Assyrian kings, contemporaneous with Jehu, king of Israel, visited a cave at the head of the Tigris, and inscribed there their names. A short time ago the British consul at Diarbekir discovered the cave from which the Tigris flows, and there found the names inscribed; the writing being well preserved on the rocks, although three thousand years old. This discovery sets at rest all doubts concerning the authenticity of the interpretations upon which theologians have based many arguments in behalf of the Bible.

Near Beyrout, in Syria, there is a rock which bore an inscription by Rameses II., of Egypt, who, after defeating the Syrians, passed this way northward, and wrote the account in hieroglyphics within a square border. This inscription was of the utmost importance from a biblical point of view, and also because it confirmed the account of Herodotus. On the same rock is an inscription by an Assyrian monarch, a contemporary of Hezekiah, king of Judah. Several centuries after this an inscription was sculptured on the same rock by a Roman general; and, still later, an Arab general boastfully recorded his successes. All these inscriptions were in a state of perfect preservation until a few years ago, when a French army occupied Syria. The general of this army erased the Egyptian in-

scription, and, in its stead, sculptured the deeds of Napoleon III. Those who had gone before had each respected the inscriptions of his predecessors, and it was left for a French general of the nineteenth century to commit an act of vandalism almost incredible.

Rawlinson has been more highly honored in Assyrian investigation than any other explorer. Some years ago he discovered, amid the ruins of Babylon, a cylinder covered with cuneiform inscriptions. One of these, deciphered by Opput, purports to be from Nebuchadnezzar, and, among other statements, contains the following: "The temple of the seven lights of the earth (the planets), the original edifice of Borsippa, was built by an ancient king; since then are reckoned forty-two generations; but the summit he did not finish. The men had abandoned it after the flood, because they found their words confused. The earthquake and thunder had shattered the bricks and torn down the casings of burnt tiles, and the materials of the walls were thrown together and formed hills. The great God, Merdach, had put it into my heart to build it again. I have not changed the place, and have not disturbed the foundations. In the month of Salvation, on the auspicious day, I have pierced the unburnt brick of the walls and the burnt brick of the casings with arches; I have inscribed the glory of my name on the friezes of the arches."

If this interpretation be confirmed, its importance can scarcely be conceived. The cylinder was found in the ruins of Birs (tower of) Nimrud, or as it is otherwise named, "The place of confusion." The inscription shows that the ruins were referred by tradition to so ancient a period that, under the accompanying circumstances, we may regard them as corresponding to the Tower of Babel. We have here, then, a striking confirmation of the received chronology. Allowing forty years to a generation, Birs Nimrud was erected about seventeen centuries before the reign of Nebuchadnezzar, or nearly twenty-two centuries before Christ; which varies little from the usual calculation. The theory that biblical chronology is wrong by many centuries, therefore falls to the ground.

In Egypt the results have been equally interesting. On several rocks are found hieroglyphical inscriptions, descriptive of the condition of the Hebrews in Egypt. A papyrus in the museum of Leyden is said to contain the following passage. The Scribe Kanitsir thus addresses his superior: "May my lord find satisfaction in my having complied with the instruction my lord gave me, saying, distribute the rations among the soldiers, and likewise among the Hebrews, who carry the stones to the great city of King Rameses: Miamun, the lover of the truth," etc. Another papyrus roll in the same museum is said to contain similar statements respecting the serfdom of the Hebrews.

Not long ago a French engineer, while attempting to repair the basement of Pompey's Pillar, ordered a few of the loose stones forming the base to be removed. It was found that the pillar rested upon a cube of

quartzose conglomerate within the basement. This bore a hieroglyphical inscription, being the capital of a column brought from the upper region to serve as a base to the pillar. M. Mariette has deciphered the writing, and he decides that it was carved during the reign of Sesostris II. ; so that Pompey's Pillar, now fifteen hundred years old, 'rests on a fragment cut at least seventeen hundred years earlier.

*La France* states that an explorer in Lower Egypt has disinterred a basalt effigy, bearing certain hieroglyphics on its plinth, indicating "beyond doubt that the features are those of Potiphar's wife." The statement may be taken with some allowance, as the discoverer is anonymous, and *La France* is not excellent authority.

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## MILITARY DRILL FOR SCHOOLS OF ALL KINDS.

### II.

#### THE SQUAD-DRILL.

**S**QUADS for this drill should consist of from eight to sixteen ; the school, or class, if more than sixteen, should be divided into regular drill-squads, each having one or two non-commissioned officers—a sergeant or a corporal, or both. These officers should be drilled by the teacher, and will drill the squads under his supervision.

#### 1. Formation and Alignment.

The signal for assembling is the command "FALL IN," or the drum-beat or bugle-call known as "the Assembly." A regular place for each squad and a place for the whole company should be fixed upon. At the signal, the squad arranges itself in one rank, faced to the front (Casey), close enough to touch elbows, but not crowded, and in the order of size—that is, the tallest boy on the right, and so on down. In disputed cases, height should be determined by the shoulders as well as by the head. The sergeant or corporal places himself habitually on the right, whether he be tallest or not ; and, if there be two non-commissioned officers, the lower in rank takes the left. They are called, when in this position, *right* and *left guide*.

*Alignment* is straightening a line of men. At most changes of position the line should be "dressed."

The *dressing* or *alignment* may be either forward or back, either by the right or the left. The eyes are always turned to the side *by* which (not *to* which) the dressing is ordered to be made. It is necessary to teach first this movement of the eyes alone.

The command is "*Eyes - - - RIGHT.*" At the last word, the head is turned an inch or two to the right ; and the eyes are turned so as to look in the direction of the right shoulder. The great fault to be corrected, is bending the neck. See that the head is not poked forward, and that the eyes are in the same horizontal plane.

The command for turning the eyes to the front is "*FRONT,*" and they must be kept turned to the right till this order is given. "*Eyes - - - LEFT*" is the converse.

To dress the squad by the right. Go to the place where the right is to rest, and call for, or motion to, the *right guide*. He comes out and places his right arm against your breast. You put him in the right direction, and the left guide places himself in line with him at just the distance of the squad's length. Then order "*Right - - - DRESS,*" if the squad has to go forward to reach the line ; and "*Right backward - - - DRESS,*" if backward. If forward, the squad *steps* up to within six inches of the line, turning heads to the right as if by the order "*Eyes - - - RIGHT ;*" and each then *shuffles* up till he sees that he is in line with those on his right, and then stands motionless, without turning head or eyes to the front until he hears the word "*FRONT.*" No movement can be made until this order. To dress back, *step* back six inches behind the line, and then shuffle up as before. Dressing by the left is of course the converse. In general we shall only explain movements "by the right," and leave the method "by the left" to be inferred.

Alignments are always either backward or forward ; if already on the line to be occupied, it is sufficient to order such and such files to come up or fall back.

## 2. *Facings.*

The *right, left, and about face* are executed by the same commands and the same means as in the first instructions, with the following change :

The squad may be counted off in twos, by the command, "*Count Twos.*" The first boy on the right, except the guide, counts "*one ;*" the second, "*two ;*" the third, "*one,*" etc., without turning the head.

If so counted off, at the command, "*Squad, right - - - FACE,*" the "*number ones*" face as usual ; but the "*number twos*" also step obliquely forward and to the right, placing themselves at the side of the "*number ones.*" The squad is thus formed in column two by two, which formation is more convenient than a single file.

This "*doubling,*" as it is called, must always be performed when the squad, having been counted off, is ordered to face ; if it is intended that it shall not double, the order is, "*Squad, without doubling, right - - - FACE.*"

In facing to the left, "*number two*" stands still after he has faced, and "*number one*" places himself at the left of the "*number two*" man before him.

At the command "*FRONT,*" the men who have doubled return to their places, all facing to the front.

### 3. *Marching in Line.*

In marching in line there is always a guide, whose business is to keep the direction straight to the front, and to whom all the rest conform. This guide, if marching in open ground, should take two points, or objects, straight before him, and, fixing his eye on them, endeavor to keep them in line, the nearer covering the one further off. The others keep themselves in line, by constantly taking care that they touch elbows to the side of the guide.

The order for advancing in line is, "Squad, *forward*, guide right - - - MARCH," or "Guide left - - - MARCH." The principles have already been explained, the only point to be noticed is the touch of elbows toward the guide. The halt is as before.

### 4. *Marching by the Flank.*

"Squad, *right* - - - FACE; *forward* - - - MARCH." At "FACE," the boys face, and, if counted off, double. At "MARCH," they step off promptly as usual. The guide who is leading marches straight forward; the left-hand boy of each couple is the guide of that couple, and each one takes care to cover those before him exactly—that is, so that he can see only the head of the next boy.

The chief faults to be corrected in marching by the flank are, not stepping off at the word, and not keeping "closed up." These are most apt to occur when the files are not doubled, because then the steps must lock or overlap. The best remedy is, having faced the squad without doubling, to cause each boy to place his hands on the shoulders of the boy before him. This will necessitate keeping distances. Be sure and have the *first* step of full length; there is a tendency to shorten it, for fear of treading on the leader's heels.

To change direction, the order is, "*By file right (or left)* - - - MARCH." The guide turns immediately, but not short; he circles around for two or three paces, and marches off in a direction at right angles with the former; each boy or couple follows his course.

To start off the squad, and at the same time march it by file to the right or left, the order is, "Squad, *right* - - - FACE; *by file right* - - - MARCH." "Forward by file right," though often heard, is a barbarism and an absurdity.

Halt and front as before. "Front" is always that position in line in which the tallest are on the right.

### 5. *Changing from Line to Flank Marching, and vice versa.*

Instead of halting and facing, the order is given, "Squad, *by the right flank* - - - MARCH." This means that each boy *immediately* turns to the right, not *successively* as in the last section.

The order "MARCH" must be given with the fall of the right foot. The

left foot, which is commencing a pace, completes it, with the toe turned considerably inward—that is, to the right. At the next step the body is turned square to the right, the right foot being planted before the left in the new direction. At the third step, the left foot continues the march in that direction.

If the march was in line, this brings it by the flank, and *vice versa*. If the files are counted off, they double and undouble by lengthening the step and obliquing, just as when facing and fronting at a halt.

To march by the left flank, give the word “MARCH” on the left foot.

Instead of halting and facing *about*, the order is, “Squad, *right-about* - - - MARCH.” This is executed in the same manner as the first movement in this section, except that the turn is completely around, and always to the right.

“Squad, *by the right (or left flank)* - - - HALT,” and “Squad, *right-about* - - - HALT,” explain themselves.

When marching in line the order may be given, “Squad, *by the right flank, by file left* - - - MARCH.” At this command, the right guide marches straight on, stepping short for a few paces. The others turn to the right flank and change direction to the left, following the guide.

#### 6. “On the Right by File into Line.”

Suppose you are marching your squad by the right flank toward the north, and wish to form them in line facing east. If you order, “Squad - - - HALT; FRONT;” they will face west. If you order, “Squad - - - HALT; Squad, *right* - - - FACE;” they will be facing to the rear, the right where the left ought to be. How shall we cause them to face to the front and east?

There are two ways. The order for the first is “*Countermarch by file left* - - - MARCH.” This is merely a double “file left.” When all have come around, halt and front.

The other method is by the command, “*On the right by file into line* - - - MARCH.” This is much better, but a little more complicated. We will first explain it, supposing the files not to be doubled. The command “March” is given just as the right guide reaches a point opposite where the right of the line is to rest. The guide goes “by file right,” *not* followed by the rest of the squad, and having marched several paces, halts on an intimation from the teacher. The next man goes a pace further than the guide did, turns to the right and comes into line next to the guide, on the left. The next man goes on a pace further and turns, and so on.

If doubled, number two (who, on approaching the line, finds that he and his comrade ought to change places) steps very short at two paces from the line and lets number one cross over and come into line first.

If marching by the left flank, the method is the same, substituting “left” for “right,” and “number one” for “number two.”

7. *Marking Time.*

"*Mark time* - - - *MARCH*." Commencing with the left foot, raise each alternately, as if marching. This is done without orders, when an obstacle is encountered.

8. *Dismissal.*

"*Break ranks* - - - *MARCH*" needs no elucidation.

9. *Company Drill.*

When these movements are executed well by the squads, unite them and give a company drill in one rank. Substituting "company" for "squad," the orders are the same. After learning the wheelings and double-quick, we shall be ready for a real company drill. The principles are the same as in the squad-drill, but there are some variations on account of the two ranks in which the company is almost always formed.

The teacher's ingenuity will enable him to apply the principles, if not the exact mechanism, of these maneuvers to the movements of his classes. If the commands are given by word of mouth, the word "Class" may be substituted for "Squad."

## SECOND-HAND SCIENCE.

THE following article from the *London Reader* is as applicable to our people as to the English. We give it entire :

A healthy, comfortable ignorance is a fine thing now-a-days, and very hard to find. One can scarcely meet with it in a Sabbath-day's journey. People are getting so profoundly wise, and of such terrible quick parts, that if a few scientific puzzles were not to hand, with a *canard* now and then, there would really be no living in peace with one's wise neighbors. A hearty abandonment to laughter, fun, or mere animal enjoyment will soon be considered as sinful as long curls and expletives were in old Puritan days. Every occasion is so "improved," and men, women, and children so wickedly clever, that we are beginning to think Lord Bacon no wiser than a village pedagogue, and his namesake Roger, the real "light," because he said that he could teach all the science and languages he knew in six months, to an industrious man of good memory. Men find themselves wise as suddenly as Lord Byron found himself famous, by getting up some fine morning after a semi-scientific lecture. Young men's diaries are a sort of *suspirium de profundis*, and young ladies coquet with science long before they have finished their education or "come out" before a critical world. The antiquity of man troubles even a grave-digger, and the shepherd leaves his stars to muse on the origin of species.

There is much to admire in all this. There can be no patent or protection in learning. It is like love, water, and sunshine, and will find its way everywhere. But there is such a thing as getting too much of it, and too early, and too second-hand. It is one of the marvels of to-day that scientific discoveries are the property of all before they could even be known to the wise in a by-gone age; but this very rapidity of transmission is by no means an unmitigated good. We get wise too soon, and hold our knowledge loosely. A lecture, an essay, or a few allusions in a novel, may make us seem very learned, but really go for very little. It is but second-hand science of a very poor quality. Locke has hit this modern pertness so wisely, that we can not forbear quoting him. "The floating of other men's opinions in our brains," he says, "makes us not one jot the more knowing, though they happen to be true. What in them was science, in us is but opiniatry, whilst we give up our assent only to reverend names, and do not, as they did, employ our own reason to understand those truths which gave them reputation. Such borrowed wealth," he adds, with a striking illustration, "like fairy money, though it were gold in the hand from which a man received it, will be but leaves and dust when it comes to use." True as this most undoubtedly is of all philosophy, it is most especially so of science. There is nothing that suffers so much in transition. It is sometimes hard to recognize it, after it has passed through half a dozen minds. A story grows in transmission, but science lessens. A man puts his inferences and embellishments into a story, but, unless he has supplemented his first knowledge by further research or experiment, his science becomes "bare, bald, and tawdry as a fingered moth." It is like a sixpence that has rubbed in so many pockets, and against so many penny pieces, that it is nothing but a counter.

Specialty has done much to produce this attenuation, but lecturing by unscientific men has done more. Division of labor is undoubtedly a fine thing, and contributes to advance every thing to greater perfection, but it makes men less men all round, and less full-minded. Here is one man metal mad, and finding new metals everywhere, until one's very thoughts are somehow smelted in his presence, and any fine attitude of strong sense or manly self-assertion is only so much iron in the blood. Here is another who is rabid upon heat, and puts your poet's fine frenzy down to the rotation of worlds that were going on before Adam, and the sunshine in which some fairy fern-leaves floated æons upon æons since. Another trips you up in your speech with Grimm's Law, until you fade into silence, grasping your poor martyred *h's*. It is the simple scholar now who works out the affiliations of the sciences, and the dull troglodyte who seasons our singularities with some strong common sense. We can survive this dissection, but may not wisely live out this sciolism. If people will be so anxious to have science made easy and popular, we must expect a pert shallowness and a troublesome conceit. It is too much to expect that a law, or a series of



## JULIAN GURDON: SCHOOLMASTER.

## CHAPTER VIII.

## THE SELECT SCHOOL.

**M**Y few months' absence had greatly changed me. I went away a boy, I returned a man. I had toiled for others, and for myself, and grown stronger in the conflict with the rude forces I had conquered.

All that spring and summer I studied hard and faithfully. I had not fallen behind my class, and when the yearly examination came, I was ready to pass on to the next, the senior class, and one year more would see my collegiate education finished.

My mother would have had me remain at home during the following winter, but I was resolute in denying myself that pleasure. Both she and Emma were now doing well. My mother had become known to the faculty of the college, and her house was now filled by unmarried professors, tutors, and the better class of students. After the commencement, Robert Lawrence, who had entered favorably, was added to these.

Emma's musical talent had been discovered and appreciated. She had now as many pupils as she could attend to, and was also engaged, at a handsome salary, to sing in the principal church of Elmtown. The resources of the family were so much improved, that I might have remained at home, but I had a sturdy independence which would not allow me to be a pensioner upon my mother's bounty.

Accordingly I employed all the leisure I could gain in looking about for an engagement, and was at last so fortunate as to receive a proposition to conduct a select school in a flourishing village in a neighboring State. My arrangements were soon made, and the school was to commence on the first of November. A self-constituted committee had agreed to prepare the school-room, and engage a boarding-place for me; and these preliminaries being off my hands, I devoted myself indefatigably to my studies, till the period of departure arrived. Then I bade farewell to my mother and sister, with not less real sorrow than before, but with fewer misgivings, because I knew they had a devoted friend in Robert Lawrence.

I need describe this winter's experience and work with far less minuteness than the first. I had grown more accustomed to my calling, and more self-assured. But I encountered a different state of society, and a very different class of pupils.

Farleyville was a manufacturing village. There was a very sharp and well-defined distinction of classes. There were the families of professional men, of the wealthier storekeepers, or merchants, and of the

manufacturers, in one class ; of the lesser storekeepers, respectable mechanics, and retired agriculturists in another, and the operatives in a third. With the last I had nothing to do. My school was to be emphatically select, made up entirely from the first class, though it did happen, somehow, that a few from the second class crept in. It was a school of young gentlemen and ladies, though I am constrained to say, that except a varnish of external refinement, in some cases very thin indeed, I found them in no respect better than the rustics that were gathered about me the previous winter.

Board had been secured for me in the family of the rector of St. John's, with whom, notwithstanding their great effort at gentility, I found myself less comfortable than at the old Pilgrim mansion.

I found here more pretension among my scholars. Books and apparatus were furnished in prodigal abundance. There was a scornful avoidance of the question of expense. Every thing was on the high-pressure principle, and I soon found that the results of my tuition were expected to conform to this general idea. Given tools to work *with*, and brains to work *upon*, finished scholars were expected to be turned out with speed and precision.

Among the sixty pupils, but few were laborious and conscientious. They expected much of me, and little of themselves, in the way of trouble. In spite of all the helps I really had, I found hindrances innumerable. These young gentleman and ladies came to the school nicely and even elaborately dressed, with the idea of enjoying themselves while their teacher, by what process I never rightly understood, should make good scholars of them. The more ignorant they were, the more firmly fixed this idea. I found it the worst enemy I ever encountered during my life as a teacher.

Notwithstanding my earlier experiences at Greenvale, I left that place with a sense of satisfaction in the result of my labors. But such was by no means the case at Farleyville. A few of my pupils had improved, but they were chiefly from the second social class of which I have spoken, boys and girls who anticipated making some practical use of their education, and who were anxious to make the most of each opportunity. I respected these, and had most sympathy with them : I fear lost caste in consequence. At any rate, I found that my invitations decreased, and that I received fewer smiles from some of my pretty, over-dressed pupils, and less condescending attentions from certain purse-proud fathers, and their wives and families, when it became known that I spent many evenings with Edward and Sarah Gaylord, the intelligent children of a worthy carpenter, who was devoting all his spare means to their education. Edward was pursuing his mathematical studies with reference to future employment as a civil or topographical engineer, and Sarah intended to devote herself to teaching. Both possessed *hungry* minds—had a

voracious appetite for knowledge, which kept me always on the alert to provide the required supply. They were plain and simple in their tastes, but possessed great natural refinement. Their home was a model of comfort and simplicity.

These were the sole friends I made in Farleyville. At home, Mr. Prout, the rector, was pompous and weak ; Mrs. Prout, in poor health, and absorbed in her ailments and her efforts to live genteelly on a slender income. At Mr. Chandler's, the principal manufacturer, who lived in the largest mansion in the village, I had at first been favorably received. Miss Rachel and Miss Amelia were my pupils—very fine ladies, who wore silks and jewelry in the school-room, and had airs and graces to match. They had been at boarding-school, and only attended my school, as they graciously informed me, for the sake of giving their influence to its success. They had a smattering of various branches, played the piano noisily, spoke French with an extremely American accent, and a ludicrous disregard of such unimportant matters as gender and number, and were not much more proficient in their English. Their information upon geographical and historical points was not much more correct, and, had my judgment ruled, I should have given them a course of rudimental instruction, instead of the more advanced studies which they played at learning.

I think I have said enough to show why I left Farleyville in a far less satisfied state of mind than I did Greenvale. The results of my winter's services were so poor, that I almost felt guilty of dishonesty in receiving the very liberal payment awarded me. But I reconciled myself, on reflecting that I had honestly done my best, and struggled bravely with the many obstacles I encountered.

Our closing exercises were on the grandest scale possible. Anticipating only failure if an examination of proficiency in the substantial of education was attempted, I passed over those branches as lightly as possible. In these, only the Gaylords and a very few others acquitted themselves creditably. But in showy matters we did better, and it chanced that there were few in Farleyville who could detect how meretricious was the performance.

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## CHAPTER IX.

### TUTOR-LIFE.

THE calls upon my time, and the dissatisfied state of my mind during my stay in Farleyville had prevented me from pursuing my studies to as good purpose as on the previous winter. I found, on rejoining my class, that I had fallen behind. My health, also, hitherto excellent, had become such as to give my mother much uneasiness. At length, it was deemed best to have medical advice, and the decision was made that I

must, for the present, abandon my studies, and find the remedy of my illness in country air and relaxation.

This decision fell upon my ear like the sentence of doom. Ere my feet were planted upon the threshold of my career, I was compelled to pause. I believed that I should never again go forward.

My physician endeavored to dissipate this feeling, and to show me that it was nothing more than delay which I had to encounter. Certainly, I could not now graduate until the ensuing year, but he proposed a plan by which the year might be fully and profitably devoted to my studies.

His brother, a wealthy gentleman residing upon the banks of a noble river and in a region of remarkable beauty and salubrity, was educating his two young sons at home. A resident tutor was needed, and with my consent he would recommend me for the situation.

It is scarcely needful to say that I eagerly grasped at this plan. It was proposed to Mr. Sherwood, and by the middle of May I found myself an inmate of his pleasant household.

The boys, two sprightly, well-mannered lads, intelligent, and eager for knowledge, pleased me greatly. Two hours only were spent in the school-room daily, but those were not all that we devoted to study. Far and wide, over the hills, and along the river-brink, we wandered, and the wonders of nature were unfolded to us. There were wonderful fossils in those beetling ledges, and the Flora of that region presented specimens at that day thought to be unique. The forms of animal life were scarcely less various.

It was to the study of nature that the summer was principally devoted. My pupils were scarcely less eager than myself. Day by day unfolded to us new marvels. Day by day added to our stores of useful knowledge. Still we kept up regular lessons, and devoted ourselves strictly to the allotted range of studies in the school-room. Our classics and our mathematics were not neglected in the ardor of our pursuit of a rare moss or flower, or strange insect. Mr. Sherwood was often pleased to congratulate me on keeping an even balance in our studies and pursuits, giving mind and body, each, and at once, its appropriate discipline and recreation.

It was a time of such profit and pleasure to myself, as well as of such visible improvement to my young charges, that it was with an unfeigned sadness I saw it draw to a close.

I had always intended to devote myself to a profession on leaving college, and my thoughts and feelings had inclined me to the law. Now, however, I saw a different career opening before me.

The ensuing months I spent in strict devotion to my studies. I had laid in such a stock of physical strength, and gained such vitality during my summer among the hills, that I could afford to devote myself to study with an ardor far exceeding that of former years. I kept pace with my class, and found time besides for greatly extending my knowledge of my favorite

sciences. I graduated well, receiving, much to the gratification of my friends, higher honors than had been anticipated even by myself.

All the autumn following my graduation, I devoted to a walking tour, during which I added much to my knowledge of natural science. With the winter term, I was to commence the charge of Hamerton Academy, an old and long-established institution. Hamerton was but a few miles from Elmtown. It was not a large village, nor one where business was actively pursued. Being one of the earliest settled towns in the country, many old families still resided there in a quiet sort of way ; and it seldom received any fresh vitality, except when some scion of these families, having gone out into the busy world and achieved the object of his wanderings, returned to spend his fortune and his decaying years in the old town which gave him birth.

The tone of society was unusually aristocratic for an American village. Family counted for much, wealth for little. *Noblesse oblige*, was the Hamertonian motto. Family names must be preserved, and family standing maintained. Education was a requirement of the position of these families, and no ordinary instructor would have been permitted to take charge of Hamerton Academy.

The faculty of the college had given me the highest testimonials, and some of my contributions to scientific publications had gained me a rising fame. Still, it was not without surprise that I received, and not without misgiving that I accepted, an appointment to this situation.

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## THE EDUCATION OF GIRLS.\*

FEMALE education, to be appropriate, must be adapted not only to the distinctive nature of the sex, but to the particular organization of the individual. This bears upon an evil which of necessity is inherent in every large seminary, and which, at best, can only be partially obviated. Carlyle, in his *Life of Schiller*, referring to his six years in a Stuttgart school, says : "The system of education seems to have been formed on the principles, not of cherishing and correcting nature, but of rooting it out and supplying its place with something better. The process of teaching and living was conducted with the stiff formality of military drilling. Every thing went as by statute and ordinance ; there was no scope for the exercise of free-will, no allowance for the varieties of original structure. A scholar might possess what instinct or capacity he pleased, the 'regulations of the school' took no account of this. He must fit himself into

\* Hours at Home.

the common mold, which, like the old giant's bed, stood there, appointed by superior authority to be filled alike by the great and the little. \* \* \*

The pupils were kept apart from the conversation or sight of any person but their teachers. None ever got beyond the precincts of despotism to snatch even a fearful joy. Their very amusements proceeded by word of command."

What is so forcibly said here of the Stuttgart school must appertain more or less to every large school, because in every large establishment of whatsoever kind, strict method and rigid system are necessary to order. If you subject two plastic natures to exactly the same process, one at least must suffer, because no two natures are exactly alike. If you do this upon two hundred, so much wider the mischief. This treatment must especially injure the feminine organization, because it is the most delicate and sensitive. God, with his infinite resources, always creates with variety. He has made no two grains of sand alike, far less too human beings. He has varied the elements of humanity in almost infinite combinations. It is the sacred office of education to develop a symmetrical healthful fullness of being after the particular type God has indicated for each individual. A true training should no more destroy variety among women, than a true cultivation destroys variety among flowers. There is as much diversity among the flowers as among the weeds; and so there ought to be as much diversity among the good as among the bad. It is true that there are certain qualities which are indispensable to every good character, as petals are to flowers. But it is not the mere presence or the mere number of the petals that gives the charm to the flower. It is the native coloring and the native fragrance. As these differ not only in degree but in kind, so character differs in all its finer essences and issues. Education must heed this. It must work with nature. If it will deal gently by her, and not thrust her aside, or crush her down, she will lend all her best influences to its work, and manifest herself most distinctly and graciously in the result. If it be truly wise, and benign, and patient, she will indeed let it turn and train even the evil roots she has fixed in the very core of the being, so that they shall grow up, not into briars, but into roses. Collective, or to use a more expressive epithet, wholesale education, the only kind boarding-schools can furnish, excludes almost entirely this individual training; and to that one cause is greatly owing the painful lack of spontaneity and the artificial uniformity that mark all the higher circles of American society. This effect must continue until the large boarding-school system gives way to small private schools, or to the employment of thoroughly qualified family governesses, or, far better yet, the teaching and training of daughters, Cornelia fashion by Cornelia mothers. There was a world of practical wisdom in that injunction of Napoleon to Madame Campan: "Be it your care to train up mothers who shall know how to educate their children." Had it been generally followed, France would have been saved.

## PHYSICAL GEOGRAPHY.

THE several series of school geographies now in use, although differing widely in degree of adaptedness to class-recitation, are based throughout upon the same general plan of presenting facts without principles, results without causes. While pages of exercises and questions are given upon unimportant political divisions and insignificant rivers, capes, bays, and islands, very little, or more frequently nothing at all, is given upon subjects like prevailing winds and ocean currents and their influences, or the forces which determine and control these influences. If the time which is now spent in memorizing details of no great value at best, were devoted to the consideration of general principles, relations, and influences presented in plain and familiar language, and with frequent reference to well-known facts and objects, the study of geography would not only be more interesting, but far more profitable.

It is true that children of the age at which this study is usually begun, can not be expected to understand the laws which govern the operations of Nature—laws which the wisest are only beginning to comprehend; but one fact is as easily remembered as another, and a child can learn that Western Europe owes its genial climate, and consequently its civilization and prosperity, to the influence of the Gulf Stream as readily as that the Torneo River empties into the Gulf of Bothnia. The superior value of the first fact will not be questioned, yet makers of school geographies persist in filling their books almost entirely with facts like the second.

A certain amount of local and descriptive geography is valuable and necessary; but a knowledge of the principles upon which, and the purposes for which the various divisions of land and water, and the phenomena of Nature were called into existence, is absolutely essential, and we overlook the most important part of the subject when we teach merely the names and situations of the continents, mountains, oceans, rivers, etc. Each of these was created in accordance with a wise and definite plan, each has its special duty to perform, and all work together in harmony for the happiness and well-being of the earth's inhabitants. And if such facts and relations were not simply recognized, but made the basis of our system of teaching the subject, geography would serve the purposes of instruction as well, besides cultivating the pupil's powers of observation and reason, and elevating his thoughts by the contemplation of the wisdom, power and goodness of the divine Architect.

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THE Duke of Wellington, in one of his few public speeches, said that "education without religion makes men cunning devils."

## AMERICAN EDUCATIONAL MONTHLY.

MAY, 1866.

## HONESTY OF EDUCATIONAL JOURNALS.

WITHOUT exception, we believe the conductors of educational journals in the United States are honorable men. In fact, their business offers no temptations to rascals. The publishers and editors of educational periodicals are a philanthropic brotherhood, all zealous in one common cause. Hence, it is not strange that their communications with each other are of the most honorable and courteous character.

While we make no exception in the *United States*, we regret that we must cite an exception so near to us as Canada. The *Journal of Education*, Montreal (Lower Canada), February, 1866, Volume X., No. 2, copies in full, verbatim et literatim, a valuable article from our February number, on "Mathematical Geography," *without credit*. While we can not complain of the journal's appreciation of our articles, we can not appreciate the journal's style of appropriating our property. The article in question was prepared expressly for us by one of our most esteemed contributors, whose name was given in our table of contents.

We make no objection to the free use of whatever papers may please our editorial readers, provided due *credit* be given. We do not take the precaution to copyright the MONTHLY, because we rely upon the honor of educational editors. We have never before had occasion to cry "stop thief."

We regret that we can not find some shadow of excuse for so flagrant an act. We can not look to any individual person for an apology; the paper betrays no names of editors or publishers. Nor does it disclose the location of a publication office, more definitely than "Montreal, Lower Canada."

Upon the journal's title-page, is displayed the motto, "*Labor omnia vincit*." We would suggest, that "labor" can not always "conquer all things." It may remove mountains; it may stop the march of the Fenian army, but it can not preserve a character without spot, nor a reputation without blemish, unless actuated by a becoming honesty of purpose.

The said journal, whose editors and publishers are nameless, further



graces its title-page with the significant words, "Religion, science, liberty, progress." Surely, it may be consistent with "liberty" to make free with the property of other men. The "progress" from indifferent to excellent may be most decided when Mr. Journal appropriates our articles, instead of relying upon his own, or his contributors' brains.

But why steal? Did Mr. Journal presume that the theft would not be detected at home? Our MONTHLY has a highly respectable list of subscribers in Canada. If Mr. Journal has any Canadian readers, it is most likely that our article on Mathematical Geography, with its excellent table, was familiar to them, before it was reproduced by him.

Should Mr. Journal offer in excuse for his conduct that the "Reciprocity Treaty" no longer exists, we shall be happy to take it into most respectful consideration.

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#### COMPOSITION WRITING.

**I**NSTINCT is a great matter. When it runs counter to custom, there is good reason for suspecting that something in the custom is wrong. The dislike which all school children have to writing compositions is too general in its character and too persistent in its manifestation to be the effect of any local circumstance or individual caprice. The good and the bad, the ambitious and the lazy, alike are affected by it. All hate it, and, whenever they can, avoid it. There must be some cause for this, either in the exercise itself or in the manner in which it is conducted. If teachers would examine the matter impartially, taking into account the object to be attained, and judging the merits of the system employed by its results, we believe there are few who would hesitate to acknowledge that the fault lies with the teaching and not with the taught.

What is the object of composition writing? To make original thinkers? Some would have it so; but it never yet accomplished that object, however desirable it may be, and it is difficult to see how it ever can.

Is it to make good writers? So we believe. Does any one know of a superior writer who acquired his style by this exercise? The composition style is proverbial and proverbially bad. A child can hardly be expected to become a master of the art of writing, when he is kept continually at work on his own imperfect efforts, with only such corrections as may be suggested by a teacher who too often can write no better than his pupil.

A novice in other arts is always allowed to avail himself of the labor and the experience of master artists who have gone before him. But not so with the beginner in writing. He is obliged to work his way up as though he were the first to attempt the difficult task of representing thought by visible characters, and the greater part of his time is wasted in overcoming obstacles which he ought never to encounter. It is very easy to tell him to write about something familiar, just as he would talk about it. But it is not so easy for him to do, as any one will discover who will put himself in the position of a child and then try to follow the same advice. Let the various sounds of the language be represented by strange characters, so that the form of each letter and the spelling of each word must be considered separately; then take a pen in the left hand and try to write, and some of the difficulties of composition encountered by a child will be realized. Having so many things to think of at once, what wonder that he becomes confused, and that the more critical and conscientious he is, the harder it is for him. If he has any thoughts on his subject to begin with, he forgets them while considering what words and letters he shall use, and how to make them.

It is true that all this may be overcome, and facility of composition acquired by practice. But we believe it might be much more easily and rapidly done in another and more natural manner, and the rare art of writing good English acquired at the same time.

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JARED SPARKS, LL.D.

THE well-known American scholar and author, Jared Sparks, died at his residence, in Cambridge, Mass., on Wednesday, the 14th of March. Mr. Sparks was born in Willington, Conn., May 10, 1789. Obligated to work for his own support from the time he was a mere boy, he laid the foundation of the education for which he afterwards became distinguished, during hours taken from labor. He worked first upon a farm, and afterward in a saw and grist-mill. The latter occupation left him much spare time, which he devoted to his books, and thus early he gave evidence of rare ability, and an insatiable desire for knowledge. When about sixteen years of age, he was apprenticed to a carpenter, with whom he worked two years, when his master canceled his indentures, and young Sparks became village schoolmaster at Tolland, Conn. Here he

taught during the winter season, and in summer supported himself by his trade. He studied mathematics and Latin under the direction of Rev. Hubbell Loomis, the minister of his native town. Through the influence of that gentleman, the Rev. Abiel Abbott was induced to secure for Sparks a scholarship at Phillips' Academy, Exeter, N. H., on a charitable foundation, which gave him education and home, free of cost. He entered the academy in 1809, completed his term in 1811, and being assisted to a scholarship at Harvard College by President Kirkland, he entered that institution the same year. To meet his college expenses, he left his class, and went to Havre de Grace, Md., to teach. Having replenished his purse, he returned to Harvard, and graduated in 1815, with one of the highest honors. After graduating, he taught school in Lancaster, Mass., for a short time, then began the study of theology at the Cambridge school. Shortly after, he was appointed Tutor of Mathematics and Natural Philosophy at Harvard, which office he filled two years, prosecuting, at the same time, his theological studies, and also editing the *North American Review*, of which he was one of the original founders, in 1815. In 1819 he was ordained as minister of the Unitarian church at Baltimore, Md. During his residence in Baltimore, he established and edited the *Unitarian Miscellany*, being himself its largest contributor.

His health failing, he resigned his pastorate, returned to Boston and purchased the *North American Review*, which he edited for seven years. Afterward he devoted himself chiefly to historical authorship. His contributions to American historical literature, probably exceed in bulk those of any other writer, and they are characterized throughout by careful preparation and candid treatment.

The principal works of Mr. Sparks are "The Life of John Ledyard," the American traveller; the Washington papers, with a life of the writer, in twelve octavo volumes; "The Diplomatic Correspondence of the American Revolution," in twelve volumes; "The Life of Gouverneur Morris," in three volumes; "A Library of American Biography," in two series, one of ten volumes, and one of fifteen volumes; "The Works of Benjamin Franklin," in ten volumes; and "Correspondence of the American Revolution," in four volumes. From 1839 to 1849, Mr. Sparks was Professor of History in Harvard College, and president of that institution from 1849 to 1852. His last historical work was published in 1854. Since that time he has quietly enjoyed the rewards of his abundant labors. His life was eminently successful, and made so by elevated aims, untiring industry, and unswerving moral integrity.

## A WANT.

**W**ANTED by the teachers of the land—an economical substitute for blackboard and crayon, which, with all the advantages which these possess, shall combine another desideratum—freedom from dust.

So writes a correspondent, who has doubtless learned by dear experience that chalk-dust, though light, is no trifling matter. It may be sneezed at, but it can not be coughed down. It has made its mark and market, and it will continue to be a necessary nuisance in the school-room until something better is made to take its place—on the blackboard, we mean, not in the air. It is not an inconvenience merely. Not a few teachers have been driven from the profession with weakened lungs and ruined health, caused by the continual breathing, in the school-room, of the all-pervading particles of chalk. The effect of this irritating substance upon the throat and lungs of children must be even more injurious.

Here is an opportunity for some enterprising Yankee to do a good thing for the world—and for himself. If there is such an anomaly as a teacher who would be rich, we say to him: "Supply this want, and a fortune is sure." And for honor, the lucky inventor will outrank the author of the latest edition of the multiplication table or even the author of the last "New Grammar."

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## EDITORIAL CORRESPONDENCE.

## THE GERMAN METHOD OF TEACHING GEOGRAPHY.

BERLIN, March 15, 1866.

**T**HE same contest which is going on in American schools respecting the relative value of the "Object Method," and that which has been in vogue from time immemorial, is in progress in the German schools, and with the growing conviction that this so-called new method (as old, by the way, as Aristotle) is the one which is best adapted to meet educational wants. In the application of this method to most studies, the Germans have not made greater progress than we, and it is to Switzerland that both countries must look to find examples of its most effective working. Yet in the science of geography, I think the Germans have worked out a system of great excellence and applicability; and as a friend of my own is carefully studying this system, and is preparing a series of text-books based upon it, I can not do better, it may be, than to devote this letter to the subject.

I need hardly say that the great leader in this department of science,

during the present century, is the distinguished professor in Berlin University, not many years dead, whose name has often been alluded to in this series of letters, Carl Ritter. Not that he has ever prepared a text-book, or series of text-books, on geography, for the use of the schools of Germany: and the volume published recently by Lippincott, and bearing his name, though prepared for the use of our higher seminaries, and admirably adapted, by its clearness and conciseness, for their needs, contains merely the substance of one of the courses of lectures which he delivered before the Berlin University. Nor is there, strange as it may seem, a single geographical text-book published in Germany which is adapted to the wants of schools; and what is learned must be learned by observation alone. I have remarked, in another letter, that the favorite method of instruction in this country is not by means of a text-book, it is by means of oral instruction. Books are published for the use of teachers, and not for that of scholars. It is so in all departments of learning, and in geography the uniform rule is followed. So, if the reader of this letter were to come to Germany, and to ask for the most approved school-books on geography, he would be shown the thick works of Klöden or Daniel, costing several dollars, and numbering thousands of pages. Each of these works he would find an exhaustless storehouse of geographical facts: and in Daniel's he would discover great scientific method, and historical as well as geographical worth. But neither of these standard works would realize his idea of a school text-book. The void is filled in this way, however. Geographical teachers procure these works, and from them they draw the matter which they wish to communicate to their classes. Admirable atlases are published for the use of schools, some of them far surpassing any that are in use in America, and having, like Kiepert's and Sydow's, a world-wide reputation. But the instruction is communicated in the lecture form, oral, familiar, often thorough. Just as medicine is taught in our medical colleges, and as theology is taught in our theological seminaries, so is geography taught to the youngest classes in German schools. The teachers here ridicule the American method of committing to memory the words of a text-book; and, so far as the slavish adherence to the mere written form given in our text-books is concerned, their criticism is just. I do not think their objections to the system of using books just and valid, however, if the books are used simply to communicate facts, and are not to be committed to memory. One great excellence in our system is, that it necessitates a period of preparation. The German method does not: the scholar merely listens to a pleasant, familiar lecture, and remembers as much of it as he can.

But it is in another thing that we can learn of the German teachers; and it is this which the series of works contemplated will aim to supply. It is the adaptation to the growing powers of mind in youth, and the gradual and natural process of unfolding which goes on. This, as I have said, is laid down in no text-book: and I have learned the method entirely from observing its application in the schools, and from conversation with the teachers themselves.

The first stage is to familiarize the children with the geography of their own homes. And not the geography alone, but the natural history of the neighborhood in which they live. If the school is in a village, the nature of hills, plains, brooks, rivers, mountains, lakes, the sea; whatever there is

in sight is made perfectly familiar to them. This is done not alone, but in connection with a rudimental instruction regarding the animals, wild and domesticated, the fowls, the fish, the insects—all the forms of life which abound. In one word, what we call the object-method, applied in reference to the outward world, is made to include the rudimental geographical forms, and whether the scholar lives in the country or city, he is compelled to interpret almost every object which the study of continents brings into notice, by the familiar scenes within a few miles of his father's dwelling. With blackboard and chalk, or with paper and pencil, he is obliged to begin, even then, the drawing of maps, designating, in a rude and childlike way, the most prominent features of the landscape, or if he live in the city, taking some well-known suburban locality, and reducing it to cartographic shape.

Thus the foundation is broadly and thoroughly laid: the vocabulary of geographical terms is acquired, and the first steps in map-drawing taken before the pupil is conscious that he has embarked upon the study of the science of geography. When the first steps are fairly taken; when all the preliminaries are arranged; when the use of relief maps has made him familiar with the aspect of the globe, and he has learned that great countries are made up of the same elements which he can see from the window of his own school-room, he is considered ready for a second step.

This is done primarily, through means of a physical atlas; nothing elaborate, but simple, clear, and intelligible. A country, North America, for example, is laid before the scholar, and the only marks which it bears are those which indicate the mountains. These, of course, are shaded so as to readily indicate their magnitude and general extent. The teacher discusses the great primary subject of highland and lowland, and then shows their influence upon the course and size of rivers. It is the scholar's next task to insert these, and thus to make the map more complete. In all this, of course, the home, with its brooks, or its rivers, is kept in view as the key to the interpretation of the larger scene. When this map is done, then another is laid before the pupil, containing the rivers, but not the mountains; the latter are carefully inserted, and the mutual play of mountains and rivers is in close method carefully studied and understood. The map is then carried forward, till, as a physical map, it is understood. Small countries are studied in the same way.; and Switzerland is not considered as studied till the whole course of its valleys has been followed, and reciprocally the valleys and streams being given, the mountain knots have been filled in. I need not say that the countries nearer the children's home are those which are studied with the greatest care, and that Germany is here the central point of interest, as the United States would be with us.

W. L. G.

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NEW YORK, 1886.

**MR. EDITOR**—The injuries which we receive from our fellow-men, in consequence of their ignorance, it is customary to forgive, however much we may regret that men are frequently so rash and meddlesome in regard to matters which they do not fully understand. But truth itself sometimes requires vindication.

The contemptuous synopsis which the critic has given of Kerl's "First Lessons in English Grammar," in the December number of the MONTHLY, is neither full nor fair; and he seems to have entirely misconceived the simple and logical skeleton of plan which underlies the work. Of course, a small grammar can not present much new matter. There is but little room for invention in regard to *go, went, gone; he, his, him*, etc. Whatever of improvement such a treatise contains, must be chiefly in the mode of presenting the subject; and in this respect the criticised book is certainly new and original.

Every one acquainted with grammar, knows that there is a great difference between definitions and such matter as the conjugation of verbs and the declension of pronouns. A corresponding distinction has, therefore, been made in the book. Of definitions, there are given only about a hundred, which would make six or seven pages in all, if printed together; and these definitions are so fully explained, and made so practical by means of illustrations and exercises, that fifty-five pages are devoted to the subject. The critic, himself, admits that the "definitions are generally faultless, and the illustrations apt." And they are not, as he says, excessive in number; because they are all needed for the subsequent part of the work. A man would be foolish to make the lower part of his house inadequate for upholding the superstructure.

The participle is a mixed part of speech; and it is easier to see some elements of its nature, than to comprehend at once its full meaning. For this reason, participial nouns are defined in connection with nouns, and participial adjectives in connection with adjectives, before participles themselves are fully defined. In the sentence, "Sleighting is a pleasant recreation, even in the midst of falling snow," it is easier to see that *sleighting* is a word used as the name of something, and that *falling* is a word used to describe something, than to comprehend the full nature of participles.

Most grammarians have made a botch of infinitives and participles. *Having, being, and having been*, are used as auxiliary participles to other participles, just as principal finite verbs have their auxiliaries. When the critic understands why there are but five personal pronouns, and yet a much greater number in the declension, and why *compound* personal pronouns are still *personal* pronouns, he will probably comprehend the apparent discrepancy between the classification of participles and infinitives, and their forms as given in the conjugation.

The critic's remark about accent, syllables, and words has some force; but every child that begins the study of grammar is supposed to have studied the spelling-book, and to have learned there what words and syllables are.

The definitions which Mr. Kerl has given of personal pronouns and relative pronouns, are both improvements on the old definitions. The chief use of personal pronouns, in language, is to distinguish "speaker, spoken to, and spoken of." The ordinary definition of relative pronouns—that a relative is one which connects clauses—is often not true. In Bryant's address to the sea-breeze, "Spirit that breakest through my lattice," etc., the relative pronoun joins a descriptive or dependent clause to an independent nominative.

In the classification of verbs, there is an inherent difficulty. The old classification is very faulty, and is now generally rejected. When I say

"she reads a book," *reads* is a transitive verb; but when I simply say, "She reads well," *reads* is now considered an intransitive verb. The classification of verbs as transitive and intransitive, and as finite and not finite, rests, of course, on a different basis from the classification of verbs as regular and irregular. (See Kerl's Common-School Grammar, p. 119.) If *predicate* and *affirm* mean precisely the same thing, as the critic affirms, then one of them should be dropped from the English language. Mr. Kerl has preferred the word *predicate*, and has applied it to all verbs that have person and number; for the word *affirm* is so apt to be contrasted with *deny*, and is hardly applicable to commands and questions. The constant use of *subject* and *predicate*, in analysis, is itself a strong argument in favor of the word *predicate*.

*Whatever*, *whoever*, and *whichever* are compound words just as much as *myself*, *himself*, and *nevertheless*. If the critic does not know that modern philologists have found out a better mode of treating *what* than that which he probably learned from Brown, and if he does not know that participles are used after the auxiliaries *be* and *have*, and *infinitives* after all other auxiliaries, then he is, indeed, very far behind the times! Surely, he must have been lately in or near the famous Sleepy Hollow of Washington Irving, and gone through a Rip Van Winkle nap.

Mr. Kerl has the sentence, "The nominative and the objective case of nouns are alike." He evidently meant that they are alike in form; for in the connection in which he uses the expression, he is treating of the forms of words, and not of definitions. The remaining criticism on this sentence shows how grossly and ridiculously ignorant of grammar the critic himself is; for the sentence is grammatically correct, and his officious mending of it *would make false syntax of it!* After every article a noun is understood, if not expressed. "The Old and the New Testament make the Bible," is correct; and means, "The Old Testament and the New Testament make the Bible." To say the Old and the New Testaments, would imply that there are several Old Testaments, and several new ones. The critic's corrected sentence, "The nominative and the objective cases," etc., implies that there is a variety of nominative cases, and also a variety of objective cases—an absurdity. The word *cases* can be used instead of *case*; but then the second article must be omitted.

The critic's remark about *was captured*, is unfair; for he garbled the passage, in which Mr. Kerl simply meant to show some of the prominent uses of auxiliary verbs. In the sentence, "He was writing," *was writing* is, of course, in the active voice; but the critic forgets that in the sentence, "Our chains are forging" (Wirt), *are forging* is passive.

The remark about punctuation is also unfair; for, taken in the gross, every one would naturally consider the period a greater pause-mark than the comma; and it would be foolish in any grammarian to base a general definition on an extreme rhetorical exception. The critic's remark, that nothing plainer is given on punctuation, is not true; for each of the principal points is explained with unusual fullness.

The critic intimates that Mr. Kerl has given very little of parsing, analysis, and false syntax. But this is not true; for in all these respects, the book reaches, with much less machinery, considerably further than any other English grammar of the same size; and that it does so, is one of its principal merits. In false syntax, especially, it is almost as comprehen-



sive and useful as the ordinary large grammars. By the way, if this pretentious critic would only study the little book thoroughly and carefully, he would be very apt to learn much more about *italics*, capitals, punctuation, and syntax, than the blunders in his own article warrant us in believing he does know.

The mockery and vainglory of the critic we shall not condescend to notice. Men that are governed by an elevated and refined sense of honor and a reverential love of truth, and that are conscious of superior talents and a just cause, usually conduct warfare in a dignified and gentlemanly manner.

OBSERVER.

## CURRENT PUBLICATIONS.

THE work which Prof. Clark has just issued, contains the substance of a course of lectures delivered before the Lowell Institute, of Boston, during February and March, 1864. Although these lectures were given to the public in a popular form, they are not altogether based on what was already known; the author claims no small proportion of the facts and ideas therein promulgated to be original with himself.

While denouncing materialism as an attack upon our belief in a ruling Providence, Prof. Clark maintains that the progressive theory of development is not inconsistent with our ideas of the Creator; it is rather an "argument to prove that there is a power at work in the universe, which possesses foreknowledge; the design of a forecasting, foreordaining mind—a thinking, intelligent being; such a combination of powers that no form of physical law could possibly be conceived to represent."

An animated being is not, as Paley and others would have us believe, a mere mechanism, made up of independent parts. All living beings are composed essentially of four elements, three gaseous, and one solid. In organic substances these elements are held together by chemical affinity, but in organic bodies, where life exists, they are combined by a principle not usually recognized, which our author terms vital affinity. Two substances, therefore, may yield the same chemical elements upon ultimate anal-

ysis, but the circumstances affecting the combining force may have given in the one case life; in the other, death. Although differing so widely in their effects, these affinities are closely allied. We may have, "on one hand, a drop of rosin, gum, or mucus, held together by the natural chemical affinity, and on the other hand, certain living beings, so exceedingly simple in structure that they may be compared to the drop of gum or mucus, but from which they are distinguished by being held together by the affinity called the principle of life." These protean animalcules are so nearly homogeneous throughout, that under even the most powerful microscope they retain their gum-like appearance, and differ from inorganic matter only, in that they possess the vital functions of motion and digestion.

Prof. Clark maintains that these animals may be spontaneously generated, and cites in full Prof. Wyman's experiments upon this interesting subject. Spontaneous generation is one of the most vexing questions to-day in science, the most contradictory results being obtained under the same conditions by different investigators. M. Coste asserts in the most absolute manner that infusoria never make their appearance in solutions which are not exposed to both light and air, and details experiments which appear to be conclusive. On the other hand, Prof. Wyman conducts experiments in vessels closed after being subjected to a high temperature to destroy any germs which might be existing, and succeeds in obtaining great numbers of infusoria. In both cases the results of the investigation

(1) MIND IN NATURE, OR THE ORIGIN OF LIFE, AND MODE OF DEVELOPMENT OF ANIMALS. BY HENRY JAMES CLARK, Adjunct Professor of Zoology in Harvard University. New York: D. Appleton & Co. 8vo, pp. 332. \$4.

were seen and vouched for by savans of undoubted integrity. Prof. Clark accepts Prof. Wyman's experiments as conclusive; and in view of the fact that in the earliest, or egg-state, all animals are alike, deems them sufficient basis for the assumption, that from the animalcules, thus spontaneously developed, higher and more complicated animals may arise.

To prove this assumption is the object of "Mind in Nature," in which it is supported by a series of reasonings and experimental investigations of so remarkable a character, that although we may not coincide entirely with the deductions, we can not fail to admire the patience and ingenuity of the author. No work has yet been published upon the question of progressive development, that presents the subject as clearly as this. By a note on page 87, we perceive that Prof. Clark claims joint authorship with Prof. Agassiz, in the latter's great work, "Contributions to the Natural History of the United States." He supports his claim with strong evidence, but lets fall some remarks hardly admissible in a work of such importance as this.

Dr. Harkness has added a reader<sup>2</sup> to his Latin series. Like other books of the kind, it contains fables, anecdotes, and selections from ancient history. It is strange, that compilers of readers adhere to such selections. The transition from these to any author is very abrupt, so that a pupil is as ready to take up Cæsar after reading one-half of the matter found in readers, as if he had read the whole. These books should begin with simple fables, but the selections should be more difficult as the learner advances, and we should, therefore, have extracts from Virgil and Cæsar, as well as from Tacitus and Lucretius, so that the pupil, when studying the former authors might not be puzzled by a moderately complex sentence. There would be much reason for gratitude, if some person, qualified by judgment and experience, would furnish such a text-book. Dr. Harkness' reader is as good as any of its class, and in some respects, better. The directions to learners are practical and excellent. Many teachers would profit by studying them. The notes are concise, and there are numerous references to the author's grammar.

When that is used, the reader will be acceptable.

Although considerable information respecting microscopic manipulation has been published, yet it has been in supplementary chapters of large works. Hence, extended reading has been necessary for acquiring a knowledge of the subject. To render essential information accessible to the majority of readers, Mr. Davies has collected all the approved methods of mounting and preserving objects, and presented them in his hand-book.<sup>3</sup> This gives all one requires concerning apparatus, mounting, the preparation and use of preservative fluids, dissection and injection of objects. We think the manual would have been more useful if it had contained directions for preparing objects for medical examination; but the amateur will find it a valuable assistant, as it contains many useful hints seldom found in larger works.

Many attempts have been made to reduce our English orthography to system, by fixing the values of the letters now used, and supplying the deficiency of character by modified forms of Roman letters, and letters taken from the Greek or Saxon. But the mongrel appearance of such modified alphabets, and their failure to satisfy those who desire a simple and philosophic system of writing as well as those who stickle for the conservation of the present orthography, must ever prevent their general acceptance. The best of the kind is undoubtedly that devised for the special purpose of reducing to writing the dialects of the East, a full account of which was given in the first volume of this MONTHLY. Those who are interested in the so-called phonetic reform, will take pleasure in reading Magnus Maharba,<sup>4</sup> an allegorical narrative of the rise and fall of slavery in America. It is printed in the new Saxonized orthography, using the phonetic alphabet above mentioned.

Dr. Barnard's *Journal of Education*, for March, contains: I. Public Instruction in the Austrian Empire. II. The Nature and Value of Education. III. The Dignity of

(2) A LATIN READER. By ALBERT HARKNESS, Professor in Brown University. New York: D. Appleton & Co. 12mo, pp. 212. \$1.25.

(3) THE PREPARATION AND MOUNTING OF MICROSCOPIC OBJECTS. By THOMAS DAVIES. New York: William Wood & Co. 12mo, pp. 144. \$1.25.

(4) MAGNUS MAHARBA, AND THE BLACK DRAGON: AN ALLEGORY OF THE WAR. New York: BROWN & DUNN. Price 30 cents; on fine paper, 50 cents.

the Schoolmaster's Work. IV. Documentary History of Normal Schools in the United States. V. The Original Free or Town-school of New England. VI. Glimpses of the Means and Condition of American Education prior to 1800. VII. Schools as they were. VIII. Female Education as it was. IX. American Educational Biography. X. History of Educa-

tional Associations. XI. National Bureau of Education. XII. Advice on Studies and Conduct, by Men Eminent in Letters and Affairs.

Dr. Barnard now offers to send *free*, a copy of "Education in Europe," to any one who will secure *five* subscribers for his Journal, at \$4 each—\$20. Also, his "Object-Lessons," for *three* subscribers, at \$4—\$12.

## EDUCATIONAL INTELLIGENCE.

### NEW ENGLAND.

**MAINE.**—There are 3,880 school-houses in this State, of which seventy were erected during the last year. In 1865 the number of pupils enrolled was 158,380; the average attendance was forty-four per cent. The number of teachers employed was 7,290, whose average salary was, for males, \$27.76 per month; for females, \$2.49. The amount of school-money raised by taxation was \$469,468, an excess above requirement of \$27,944. The aggregate expenditure for school purposes was \$357,949. The State Normal School is now in successful operation with four instructors and a roll of one hundred and forty-eight students. Teachers' institutes were held in only a few counties during the year, as the State had withdrawn the appropriation formerly granted for their support and encouragement.

**MASSACHUSETTS.**—In Boston, the following grade of salaries has been determined for 1866. In the Latin, High, and Normal Schools—masters, \$3,500 per annum; sub-masters, \$2,500; ushers, \$2,000. In the grammar-schools—masters, \$2,500; sub-masters, \$2,000; ushers, \$1,500; head-assistants, \$800; assistants, \$600; and primary teachers, \$600.

—Lowell has at present 55 schools, 94 teachers, and 4,652 pupils enrolled, with an average attendance of 4,017. The total cost of supporting the schools in 1865 was \$71,356. In the early part of the year a truant commissioner was appointed. Through his efforts twenty truants were arrested, and sentenced to the House of Reformation for terms varying from three months to two years. It might be advantageous to introduce this system in all our large cities.

—During last year the School-Committee of Springfield expended \$42,686 for ordinary school purposes, and \$26,969 upon new school-houses. Two buildings are now in course of erection, whose estimated cost is \$78,000. There are 49

schools, 76 teachers, and an average attendance of about 2,500 pupils. At the beginning of the year an advance of \$200, in salaries of the male teachers, and \$50, of females, was made, to continue during the prevalence of high prices. The committee recommend compulsory attendance, as a large number of children in the district attend no school whatever. The superintendent calls attention to the propriety of establishing a truant-school.

**CONNECTICUT.**—The system of graded-schools was adopted in New Haven twelve years ago. Since that time the number of pupils enrolled has increased from 1,472 to 4,698; the average attendance, from 1,226 to 3,894; the number of teachers, from 28 to 98; and the amount of expenditures, from \$6,946 to \$43,020. Although five large buildings and numerous smaller ones have been erected, yet the increase in accommodations has not proved sufficient for more than one-half the number of children, between the ages of four and sixteen years, now enumerated in the district; and there are at least five thousand such, who could not attend school if they so desired. An attempt was made last year to increase the efficiency of the High-school by incorporating it with the Hopkins Grammar-school, but failed, as the trustees of the latter institution had not the power to accept the proposition. The amount of real estate owned by the district is \$152,000, and the estimated total expenses for 1866 are \$71,200.

—Arrangements have been made to establish a scientific school, for which \$150,000 are to be raised, in connection with the Wesleyan University at Middletown. Isaac Rich, Esq., of Boston, is about to erect a library building for the University, and the alumni have raised a library fund of \$25,000.

**RHODE ISLAND.**—The city of Providence has 52 schools, with 150 teachers, and an average attendance of between 7,000 and 8,000 pupils. The expenditures last year

were \$90,000. Mr. Leach, the superintendent, is, as he should be, exceedingly severe upon tardy teachers. He insists upon promptness—for its own sake. He recently suspended sixteen pupils from the High-school for a tardiness of two minutes, for which they could offer no reasonable excuse.

### MIDDLE STATES.

**NEW YORK.**—Dr. Hickok has been elected to succeed Dr. Nott in the presidency of Union College, at Schenectady. He had been vice-president from 1849.

—The annual catalogue of the Union Theological Seminary, in New York city, shows that it is in a highly-prosperous condition. It has 125 students, of whom 49 have been in connection with the Union army.

**NEW JERSEY.**—The principal of the State Normal School makes the following statement respecting last year's work. There were 727 in attendance upon the three schools, Normal, Model, and Far-num; of these only a small proportion were gentlemen, most probably, as Dr. Hart surmises, because the salaries given to teachers are so low. In the course of study spelling is included; not of choice, but of necessity. "Three-fourths of those who are candidates for admission to the Normal-schools spell in the most shocking manner." As many of these had been at great expense to gain admission, it was not thought advisable to reject them, but rather to introduce spelling in the school. Some changes in the corps of instructors were made during the year. There were twenty-two graduates. The amount received in behalf of the various schools was \$15,280.

**PENNSYLVANIA.**—From the summary in Superintendent Coburn's annual report, we learn that there are in the State 12,980 schools, 15,564 teachers, and 703,980 pupils. The average attendance during last year was 459,121; the total cost of the system was \$8,614,288, making the average cost of pupils per month 63 cents. In Philadelphia there are 876 schools, with 1,278 teachers and 74,848 pupils, having an average attendance of 63,220. In this city female teachers are employed in all positions, except that of principal of boys' grammar-schools, and succeed admirably. The city superintendent insists upon increase of salary for the female teachers, of whom nearly one thousand receive less wages than the janitresses.

—In this State the holding of teachers' institutes depends upon the will of the school-directors; but when once ordered, teachers are by law required to attend. In several counties two hundred dollars are annually appropriated for defraying

institute expenses. The three Normal schools are in a prosperous condition. As they are unable to accommodate all who desire admission, Mr. Coburn recommends that an appropriation of five thousand dollars be made to each, four-fifths of it to be applied to lessening the expenses of students, and the remainder to increasing the accommodations.

**Soldiers' Orphan Schools.**—The object of this charity, which is under the direction of Hon. Thomas H. Burrows, is to furnish a home and an education, at the expense of the State, to the destitute orphan children of soldiers that died during the war. There are now established eight schools in different parts of the State, accommodating seven hundred and thirty-eight fatherless children. Fifteen orphans' homes and asylums throughout the Commonwealth have taken in these orphans to the number of five hundred and nineteen. The total cost for the maintenance of pupils, erection of buildings, &c., from June, 1864, when the scheme was organized, up to December 1st, 1865, was \$103,817.64. The pupils remain in the school until they are sixteen years of age. Only four of the whole number of orphans admitted to the schools have died during the year. In appearance, health, conduct, and intellect, the orphans are quite equal to those of the same ages in the common-schools. It is expected that the duration of the system will not extend beyond the year 1884, when the school will close for the want of inmates. It is computed that the average annual expense of the schools will approximate \$150,000.

—The Friends in Philadelphia have given \$125,000 in aid of the institution for colored youth in that city. The building is on Shippen Street, and will soon be opened with accommodations for 1,200 pupils.

### SOUTHERN STATES.

**WEST VIRGINIA.**—The free-school system here is still in its infancy, and the superintendent has given only his second report. Under the old regime, schools were objects of suspicion, and they are, consequently, "few and far between." Some of the buildings are in ruins, others are cheerless and comfortless log structures, prisons to both teachers and pupils. There are in the State 188 school-houses, valued at \$40,871.75, the average value, excluding those of Wheeling, being less than \$68. However, the people show a willingness to bear the burden of taxation, and everywhere call for school-houses and good teachers. Out of 84,418 youth, between the ages of six and twenty-one years, only 15,972 are enrolled upon the school-lists. The average attendance is deplorably low, being less than fifty per cent. The superintendent

complaints of the inadequate salaries granted to teachers. In Wheeling they average per month, for males, \$189 and for females \$42, there being about 8.8 months in the year; in other districts males receive \$84, and females \$22, there being on the average only 2.7 in the school year. The report contains numerous excellent recommendations, among which are, that the school-fund be apportioned upon the basis of average attendance, that five normal schools be established, that a uniform series of text-books be adopted, and that proper apparatus be procured for the schools. The irreducible school-fund is \$106,122, and the amount expended during the last year was \$67,350.

**VIRGINIA.**—A vigorous effort is being made for the removal of Randolph Macon College, as the financial condition of the institution is one of serious embarrassment.

**SOUTH CAROLINA.**—From the January Report of the State Superintendent of Education under the Freedmen's Bureau in South Carolina, it appears that 109 teachers were employed among the Freedmen of that State in December. 6,420 pupils were registered; the average attendance, 4,504. Of the number enrolled, 4,379 were reading; 8,206 studied arithmetic; 1,846 studied geography; 2,988 were writing. 86 of the teachers were natives; 78 from the North; 35 were colored. Of the pupils, 565 were free before the war.

#### WESTERN STATES.

**ILLINOIS.**—The whole number of pupils enrolled in the public-schools of Chicago during December, 1865, was 16,014, an increase of 1,296 over the corresponding month of 1864. The average attendance has increased 1,969. Notwithstanding the increased attendance, no new accommodations have been provided, and the schools are over-crowded, while many children are unable to gain admission. The number of pupils to each teacher averages about 70.

**IOWA.**—The biennial report of the Superintendent of Instruction has just been published. The number of pupils in the State shows an increase of 7,024, and the average attendance of 2,215 over the previous year. The number of teachers is 8,820, a decrease of 185. The aggregate amount of teachers' salaries was \$856,725, an increase of \$170,058. There are 4,635 school-houses valued at \$2,161,568, an increase of \$428,727. 59 institutes were held during the year, and were attended by upward of 4,000 teachers.

**MINNESOTA.**—The report of Secretary Blakeley, who unites with his duties as Secretary of the State, the responsibility of

State Superintendent of Instruction, gives the following statistics: The number of school districts is 1,824; the number of children between five and twenty-one years of age is 87,244; number of pupils on school-lists, 50,564; average attendance, 32,259; total number of teachers, 2,003; total amount paid to teachers, \$124,563, an increase of \$14,538 over the preceding year; total number of school-houses, 1,112, of which 22 are stone, 12 brick, 517 frame, and 561 log; amount of money received from county treasurers, \$151,917; amount of district taxes, \$92,215; the irreducible school-fund is now more than \$1,000,000, and it is believed it will eventually equal \$12,600,000, as one-eighth of the State has been set apart. Here, as elsewhere, the friends of education are grieved by the indifference to school privileges manifested by a large number. Only 37 per cent. of those entitled to the advantages of the schools, are regular in attendance. From this alone, as the secretary shows, the State has suffered a loss in money equaling the amount of teachers' salaries. Mr. Blakeley finds no ground for gratitude in the increased number of school-houses, as skillful teachers are less numerous than formerly. He urges the necessity of appointing an efficient State Superintendent, and maintains that nothing else can render the system effective; its buildings are wretched, its teachers incompetent, its district officers are ignorant, and its annual income is wastefully applied. "Poor schools are dear at any price, good ones are cheap at any reasonable cost, and the latter can not be secured without close and careful supervision."

—The Normal-school at Winona, under the charge of Professor W. F. Phelps, is succeeding admirably. There were in attendance last year eighty-two pupils. The principal holds that county superintendents should exercise more discrimination in selecting candidates. The efficiency of the school would be greatly increased if none were recommended but those who are well advanced in their studies and give promise of becoming successful teachers. The soundness of the principal's opinion will appear from the following selections from examination papers of candidates for admission:

*Geography.*—1st question. How do we know the earth is round?

1st answer. Because it has been traversed over, examined, and found to be certainly the case.

2d answer. The earth at a distance looks round, also the representation of the globe is round.

To this question there were sixteen correct answers, twenty-seven imperfect, and twelve total failures.

*Arithmetic.*—3d question. What is a square root of a number?

1st answer. The square root of a number is a number multiplied by itself three times.

2d answer. A number multiplied by itself.

Seven perfect, one imperfect, fifteen "can not answer."

*Grammar*.—2d question. Give the past tense of the verb "to be" in two numbers and three persons?

1st answer. I was, thou art, he is.

2d answer. I was, they were.

To this question there were four correct answers, two incorrect, and eight replied "can not answer."

The legislature has passed an act making an appropriation of \$10,000, with which to begin an edifice for the school. The bill passed the senate unanimously, and the house with but three dissenting votes. A lot has been purchased in the central part of Winona, and the citizens of that place have subscribed \$5,000 for the furtherance of the project.

ARKANSAS.—The educational interests of this State are in a very backward condition. The public fund, resulting from the sale of the sixteenth section of land in each geographical township, was almost entirely swallowed up by the rebellion, as the legislature passed an act requiring school-commissioners to receive war bonds in payment of all public fund claims. The people are willing to pay good rates of tuition, but have not learned the advantages of owning school property and employing permanent teachers. Consequently, there are few who teach from choice; those who are engaged in the business, taking it up from necessity.

WISCONSIN.—At the Methodist Centenary collection in the Central M. E. Church of Detroit, \$4,000 were raised for the Garret Biblical Institute of Chicago.

KANSAS.—The State Normal-school at Emporia seems to be gaining rapidly in usefulness and public favor. It has been in operation one year, and sixty students are in daily attendance. The present legislature has appropriated \$13,000 for the coming year; \$10,000 are to be used in the construction of a suitable building, and the

remainder for the current expenses of the school.

## FOREIGN.

CUBA.—The amount expended on the free-schools last year was \$460,000.

IRELAND.—The whole of Protestant Ireland is in a ferment respecting the proposed affiliation of the leading colleges with the Queen's University. While this change would doubtless be beneficial to the secondary institutions by causing them to elevate their standard of scholarship, there is danger that the non-sectarian system, adopted in these, would be overthrown. On January 20th, a deputation of the Ulster National Educational Association waited on the lord-lieutenant, and presented a memorial, which stated forcibly the main objections to the change. His excellency promised to lay the paper before her majesty's government.

FRANCE.—Six thousand public libraries have been founded and annexed to common-schools within the last four years.

INDIA.—A Calcutta correspondent of the *London Times* says: "Every year the numbers who flock to the schools and colleges of both the State and the missionaries, and aspire to university honors, increase all over India, but especially in Bengal. Recently the enormous hall of the fine new post-office at Calcutta, built just over the Blackhole, was crowded with the university candidates as only the examination-rooms in China are filled. There were one thousand five hundred candidates for matriculation, at or above the age of sixteen, and four hundred and forty-seven undergraduates of two years' standing for the 'little go,' called here the first examination in arts. Next week there will be one hundred and twenty aspiring Bachelors of Arts, besides Masters of Arts, and those who seek professional degrees. But among the would-be Bachelors, there is not a single Mussulman. The Bengalese everywhere predominate in the proportion of four-fifths of the whole."

## SCIENCE AND THE ARTS.

—Lately, M. Paul Berit stated to the French Academy that "if the tail of a rat be cut off, skinned, and then inserted under the skin of the same animal, it will continue to live and grow as before." He has since made further experiments, and has succeeded in grafting the tails upon other rats. The operation of grafting was successful after the tails had been subjected to the following conditions: 1. Ex-

posed to the action of air, in a closed tube, for seventy-two hours, at a temperature of 44° to 46° F.; 2. After exposure to a humid heat of 135° F.; 3. After exposure to a temperature of 8° F.; 4. After complete desiccation; 5. After desiccation and exposure to dry heat of 212° F.

—A ministerial order has been issued in France, that only utensils tinned with pure

tin should be used in the military hospitals. M. Jeannel gives the following process for detecting small quantities of lead in tin: he treats five decigrammes of metal filings with an excess of nitric acid, diluted with three times its weight of water, boils the mixture, filters, and then drops into the solution a crystal of iodide of potassium. If only one ten-thousandth part of lead is present, the yellow precipitate of iodide of lead is formed, which will not disappear upon addition of excess of ammonia.

—At Berlin, they have discovered a new way of making butter. The cream is put into a close linen bag, and buried in the ground at the depth of about a foot and a half. At the end of twenty-four hours it is taken out, and found quite firm. It is then necessary to beat it up with a little water, to get rid of the buttermilk. To prevent any admixture of earth, it is better to inclose the first bag in a second. This method is said never to fail, and the butter to be of a particularly fine quality.

—M. Pouchet has sent a paper to the French Academy on the effects of freezing animals. He finds that no animal really frozen is susceptible of revivification, as freezing disorganizes the blood. The temperature at which the death of insects,

grubs, and snails becomes inevitable is far below the freezing point. Animals may be surrounded by ice without being frozen, unless the temperature be very low. M. Pouchet states that when an animal is frozen, the capillaries contract so as to prevent the passage of the blood, and the nuclei of the blood corpuscles escape from the envelopes, and become more opaque than in a normal state.

—It requires as many as 2,000 tons of coal to produce a circular block of aniline 24 inches high by 9 inches wide; but this is sufficient to dye 800 miles of silk fabric.

**FOSSIL REMAINS IN IRELAND.**—Dr. E. P. Wright recently read a paper at the meeting of the Royal Irish Academy, by Professor Huxley and himself, on the fossil remains of some large Batrachian reptiles from the Irish coal measures. It was stated that these fossil remains rested on the very bottom of the coal basin at Castlecomer, 1,850 feet below the sea level. The reptiles were six Batrachians; there was one fossil fish and one fossil insect. Professor Haughton said he had Professor Huxley's authority for stating that the coalpit at Castlecomer had, within a few months, afforded more important discoveries than all the other coal-pits of Europe.

## NOTES AND QUERIES.

[We have received several answers to the arithmetical question given in March, but only the following agrees with the decision of the court.—Ed.]

PETERSBURG, Va., April, 1866.

**M**R. EDITOR—The most convenient fractions expressing approximately the shares of the widow and children, as required in the "curious question in arithmetic" in the March number of the MONTHLY,

are: Widow's share,  $\frac{2}{3}$ ; each child's share,  $\frac{1}{3}$ .

In comparing the dates of settlement of different States, as well as the places where first settled, as given in two geographicals, I find a remarkable disagreement. I will give a few examples, presupposing that the different names in one or two cases stand for the same place.

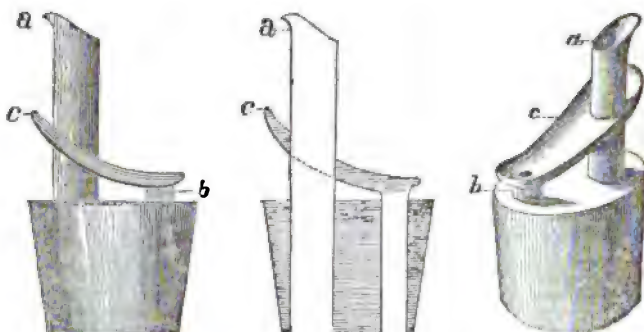
|                    |                       |                        |
|--------------------|-----------------------|------------------------|
| Maine .....        | 1625—Bristol.....     | 1680—York.             |
| Vermont.....       | 1725—Fort Dummer....  | 1749—Brattleboro'.     |
| North Carolina.... | 1668—Albemarle.....   | 1658—Roanoke River.    |
| Texas .....        | 1690—San Antonio..... | 1690—Matagorda.        |
| Michigan.....      | 1670—Detroit .....    | 1688—Detroit.          |
| Wisconsin.....     | 1669—Green Bay.....   | 1678—Prairie du Chien. |
| Ohio .....         | 1788—Marietta .....   | 1783—Marietta.         |
| Indiana.....       | 1690—Vincennes.....   | 1785—Vincennes.        |
| Missouri.....      | 1764—St. Louis .....  | 1755—St. Genieve.      |
| Iowa .....         | 1838—Burlington ..... | 1686—Dubuque.          |
| Minnesota .....    | 1846—St. Paul's.....  | 1819—Fort Snelling.    |
| California .....   | 1769—San Diego.....   | 1769—Monterey.         |

Which are correct?

Yours, truly,

N. COLEMAN.

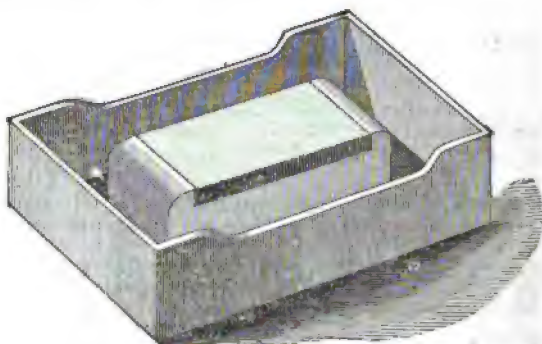
## INVENTIONS FOR SCHOOLS.



SCARLETT'S INK VENT<sup>1</sup> consists of an ordinary cork, in which is inserted two tubes, *a* and *b*; *a*, for the passage of ink; *b*, for a vent. The pan, *c*, serves to receive and return to the bottle through the tube *b*, the drops of ink which may adhere to the spout after pouring. By means of this ingenious contrivance, a small and steady stream may be poured, and, when necessary, cut off promptly, without the ink

running down the outside of the bottle. All overflowing of wells, and dripping of ink upon clothing and furniture, is thus entirely avoided.

The convenience of this invention will be readily appreciated by all who have had experience in filling ink-bottles and wells in the old-fashioned way. It is the invention of Mr. Scarlett. The price is 25 cents. It can be sent by mail for 80 cents.



Mr. McMullen, of New York, has recently invented a PENCIL-SHARPENER<sup>2</sup>, which consists simply of a file isolated in a box. Its chief advantage is to keep the hands, desk, and clothes clean, and to give a fine point to the pencil.

It will be found equally useful in the counting-house, the library, and the school.

Even the smallest scholar can sharpen his slate-pencil without powdering his hands and clothes with pencil dust. If a slender lead-pencil, that has not much wood on it, be used, the file will take away the wood with ease, so that no knife need be used. It is made in two styles, which are furnished at fifty and seventy-five cents each.

(1) Manufactured and sold by Schermerhorn, Bancroft & Co., 430 Broome-street, New York; 512 Arch-street, Philadelphia; 6 Custom-House Place, Chicago, Ill.

(2) Manufactured and sold by Schermerhorn, Bancroft & Co., 430 Broome-street, New York; 512 Arch-street, Philadelphia; 6 Custom-House Place, Chicago, Ill.



# NEW PATENT INK WELLS FOR SCHOOLS.

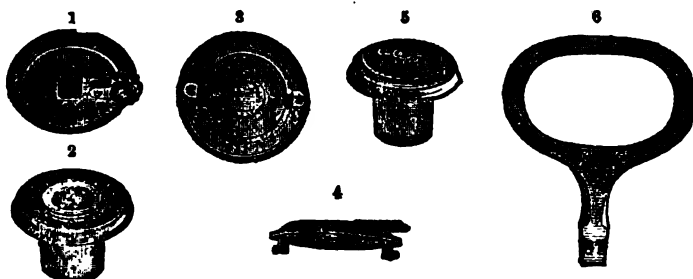


Fig. 1 represents top view of cover; 2, top view of well without cover; 3, bottom of cover; 4, edge of cover; 5, well complete; 6, key to cover. The Ink Well (5) is inserted into desk through hole bored for the purpose, so that the flange (which is of larger diameter than the body) rests upon surface of desk, and is secured in place by screws inserted in countersunk holes. Flange of well has on its outer edge a lip, which alone rests on desk, leaving space within below interior part of flange. This space allows room in which pins projecting downward from lower side of cover may freely move. The pins have heads (as seen in 4), and are first inserted through apertures large enough to admit them freely in flange of well (as in 2). From these apertures extend, concentrically in opposite directions, curved slots, just wide enough to allow necks of pins to pass freely. Lower edges of these slots have slight inclination downward from apertures, so that as cover is turned the heads of pins become wedged against inclined surfaces, and draw cover closely upon well on which it fits tightly. Cover is fastened by key (Fig. 6).

This new well is simple, and while it contains the combined excellencies of the best wells now in use, it remedies the defects of all:

1st. We have a neat and secure fastening for the cover, which can only be removed with the key, which should be kept by the teacher or janitor.

2. The well itself, after being fastened by two common screws, never need be removed: the glass lining only being removed for cleaning, which can be done by unscrewing the cap with the key.

3d. It will not get out of order,—by its simplicity of arrangement there is no lining to corrode. It cannot burst and spill the ink, and cannot be removed and lost by the pupils.

4th. It can be used in the holes made for other wells.

5th. It is economical.

**Price of Ink Wells per dozen, \$3.50; Keys, 10 cts. each.**

**HENRY M. SHERWOOD, 8 Custom House Place, Chicago, Ill.**

**SCHERMERHORN, BANCROFT & CO., 430 Broome Street, New York.**

**512 Arch Street, Philadelphia.**

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**S., B. & Co. manufacture and sell**

|                                                 |        |
|-------------------------------------------------|--------|
| Heavy Plain Glass Fonts or Ink Wells, per dozen | \$1 20 |
| Japanned Covers for same                        | 1 20   |
| Brass Covers, very neat and elegant             | 1 25   |

**All kinds of Movable Inkstands for Teachers' Desks.**

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**Size 6 ft. 6 in. by 5 ft., finely engraved and superbly colored.**

Exhibits the order in which the successive strata of rocks are arranged, and the characteristic fossils which have mainly afforded the key to this arrangement. It gives the appearance that would be presented if a section or cut were made from the surface towards the centre of the earth, exposing the edges of the different layers. It is, in fact, such a representation as may be seen in the banks of many rivers, as the Niagara, or in the high rocky cliffs of the lake or ocean shores, only it is much more extended.

This beautiful chart was prepared by Professor Hall, that it might render a study so delightful in itself, and so practically useful, more extensively introduced, and more easily understood.

Only a limited number of these charts were produced from the lithographic stones. The subscribers have now for sale a few of them, fresh and perfect.

Price, Mounted on Cloth and Rollers, \$15 00; Wholesale..... \$10 00  
Key to Hall's Geological Chart..... 1 00

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## THE NEW YORK TRIBUNE.

THE Circulation of *The Tribune* is larger than that of any other Newspaper, and it is read by the most enterprising, thrifty and industrious classes. Advertisements inserted in each of the editions of *The Tribune*, *Daily*, *Semi-Weekly* and *Weekly*, will be read by nearly a million of people, and no investment pays a business man so well as the money he spends in judicious advertising. The investigation by the Mayor and Comptroller of the City resulted in naming the *Daily Tribune* as being one of the two papers having the largest daily circulation, and its weekly edition is acknowledged to be far greater than that of any other Newspaper. *The Daily Tribune* is read by enterprising and intelligent business men and their families, and those who make known their wants through its columns will reach the very best classes of buyers.

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ONE DOLLAR per line for each insertion.

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TWENTY-FIVE CENTS per line for each insertion.

### OPINIONS OF ADVERTISERS.

Boston, Dec. 10, 1863.

Our experience in advertising in the *Weekly Tribune* has satisfactorily proved to us that it is one of the best mediums for advertising in the country. We have often received what we know to be direct returns for it, and are only surprised that more do not avail themselves of your wide circulation.

Yours very truly,  
WALKER, WISE & CO.,  
Publishers and Booksellers.

New York, Dec. 11, 1863.

Several years of quite constant use of the book advertising columns of *The Tribune* has satisfied me that through no other paper can a larger class of intelligent buyers be addressed.

I have also found the *Weekly*, notwithstanding the apparent high rates charged for space, a most economical, as well as sure, means for reaching large numbers of energetic men, and securing their services as agents.

N. O. MILLER,  
Publisher of Subscription Books, N. Y.

Boston, Dec. 9, 1863.

We consider the *Weekly Tribune* one of the best mediums for advertising our publications. Notwithstanding its seemingly high charges, its very large circulation renders it one of the cheapest and best means by which to reach the public.

OLIVER DITSON & CO.

#### EFFECT OF ADVERTISING IN "THE TRIBUNE."

"A word about advertising in *The Tribune*. When I lately offered in its columns my present home for sale, letters of inquiry began at once to pour in upon me, from North, South, East and West—a perfect deluge—and I would advise all who do not wish to spend most of their time answering letters, not to use *The Tribune* as an advertising medium, or if they do, to be a little more liberal than I was, and pay for a few more particulars. Had I done so, much trouble might have been saved. For instance, by merely saying my place was small, or specifying the number of acres, many who wrote letters would have been saved trouble and expense. I would not, if it to do again, spare words."

B. W. STERRE, Adrian, Mich.

**To Schools and Academies.**—*The Tribune* circulates in the very best families in the city and country, and is a very valuable medium in which to advertise SCHOOLS and ACADEMIES.

Real Estate Dealers, both in city and country, will find *The Tribune* a very valuable medium through which to reach parties wishing to buy or sell. ADDRESS—

W. W. POWELL,

76 Court St., cor. State, Brooklyn, N. Y.

BROOKLYN, 26th Dec., 1865  
To the Publisher of the *The New York Tribune*.

Dear Sir—In November last, I wrote an article headed, "Ho, for Tennessee," which was a description of the Cumberland Table. It was published in the *New York Daily Tribune* of Nov. 26th, and again in the *Semi-Weekly* issue of Nov. 28th. The object of the article was to call the attention of your readers to the advantages of that location, more particularly of men of small means, and those who were suffering from ill health, two classes which my benevolence led me to wish to benefit. I did not write that article because I had or expected to have land for sale, but because I believed many would thank me for the information thus communicated; yet, although I had no land for sale, I knew of those who had, at a moderate price, and perfect title, and was convinced that every man who bought it might be benefited thereby. Not feeling justified in withholding my information from the public, I prepared and inserted an advertisement in three of the leading newspapers in New York city, in which I promised to give definite information concerning the Cumberland Table of Tennessee, to any person who should apply to me for it personally or by letter. That advertisement appeared several times in each of the journals alluded to, of which *The N. Y. Tribune* was one. As a matter of justice to your own journal allow me to state the result: from the readers of each of the other two alluded to, I had two applications; from the readers of *The Tribune*, I have had so many that I found it utterly impossible to write answers to them, even by devoting my time from early morning until midnight of each day, six days in the week, and that I might fulfill the promise made in my advertisement, was compelled to print nearly all that I desired to say to applicants; by which course, with unremitting industry on my part, I have been able to fulfill my promise. Applications come to me every day from readers of *The Tribune*, from Maine to Minnesota, inclusive, and the interest which has been excited does not seem to abate in the least degree.

If the *New York Tribune*, viewed as an advertising medium, for such an object, has so great advantages over others, I think it but fair and just to yourself, and the public, that it should be made manifest; you are therefore at liberty to make any use of this communication which you think proper, as it is simply a statement of facts made voluntarily for the benefit of all concerned.

Yours very respectfully,

# THE NEW-YORK TRIBUNE—1866.

Our most momentous, arduous struggle having resulted in the triumph of American Nationality, the utter discomfiture and overthrow of Secession and Slavery, **THE TRIBUNE**, profoundly rejoicing in this result, will labor to conserve the legitimate fruits of this grand, benignant victory, by rendering Liberty and Opportunity the common heritage of the whole American People, now and evermore.

Discountenancing all unmanly exultation over or needless infliction of pain or privation on the upholders of the lost cause, it will insist on the earliest possible restoration of the Southern States to their former power and influence in our Union on the basis of All Rights for All their People.

It will labor in hope to prove that the substitution of Free for Slave Labor must inevitably and universally conduce to the increase of Industry, Thrift, Prosperity and Wealth, so that the South, within the next ten years, must look back amazed on her long persistence in a practice so baleful as the chattelizing of Man.

It will labor for the diffusion of Common School Education, Manufactures, the Useful Arts, etc., etc., throughout every portion of our country, but especially throughout the sections hitherto devoid of them, believing that every good end will thereby be subserved and the interest of every useful and worthy class promoted.

It will urge the Protection of Home Industry by discriminating duties on Foreign Products imported, with a view to drawing hither the most capable and skillful artificers and artisans of Europe, and the naturalizing on our soil of many branches of production hitherto all but confined to the Old World, while it would strengthen and extend those which have already a foothold among us.

It will give careful attention to progress and improvement in Agriculture, doing its best at once to bring markets to the doors of our farmers, and teach them how to make the most of the opportunities thus afforded them.

It will devote constant attention to Markets, especially for Agricultural Products, with intent to save both producer and consumer from being victimized by the speculator and forestaller.

And giving fair scope to Current Literature, to the proceedings of Congress, and to the general News of the Day, it hopes to retain its old patrons and attract many new to bear them company.

We rarely employ traveling agents, as so many impostors are habitually prowling in the assumed capacity of solicitors for Journals. We prefer that our subscribers shall pay their money to persons they know, and of whose integrity they are assured. Any friend who believes he will do good by increasing the circulation of **THE TRIBUNE**, is authorized to solicit and receive subscriptions. Specimen copies will be promptly sent without charge to those requiring them, and we trust many friends will be moved to ask their neighbors and acquaintances to join in making up their clubs.

## TERMS.

### WEEKLY TRIBUNE.

|                                        |        |                                                 |
|----------------------------------------|--------|-------------------------------------------------|
| Mail subscribers, single copy, 1 year— |        | An extra copy will be sent for each club often. |
| 52 numbers.....                        | \$2 00 | For clubs of twenty, two extra copies, or       |
| Mail subscribers, Clubs of five.....   | 9 00   | one copy of the Semi-Weekly, will be            |
| Ten copies, addressed to names of sub- |        | sent gratis.                                    |
| scribers.....                          | 17 00  | For clubs of fifty, five copies, or one copy    |
| Twenty copies, addressed to names of   |        | of the Daily Tribune will be sent gratis        |
| subscribers.....                       | 34 00  | for one year.                                   |
| Ten copies, to one address.....        | 16 00  | Subscribers in Canada must send 20 cents        |
| Twenty copies, to one address.....     | 30 00  | each in addition, to pay U. S. postage.         |

### SEMI-WEEKLY TRIBUNE.

|                                             |        |                                             |
|---------------------------------------------|--------|---------------------------------------------|
| Mail subscribers, 1 copy, 1 year—           |        | copy will be sent six months. On receipt    |
| 104 numbers.....                            | \$4 00 | of \$45 for fifteen copies, an extra copy   |
| Mail subscribers, 2 copies, 1 year—         |        | will be sent one year. For \$100, will send |
| 104 numbers.....                            | 7 00   | thirty-four copies, and one copy DAILY      |
| Mail subscribers, 5 copies, or over,        |        | TRIBUNE, gratis.                            |
| for each copy.....                          | 3 00   | Subscribers in Canada must send 40 cents in |
| On receipt of \$30 for ten copies, an extra |        | addition, to prepay United States postage.  |

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Subscribers in Canada must send \$1 20 in addition, to prepay United States postage.

TERMS—Cash, in advance.

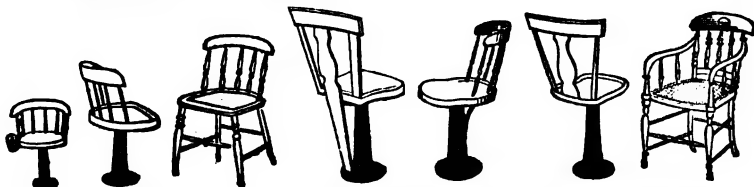
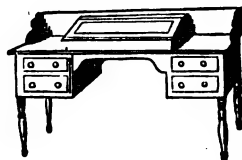
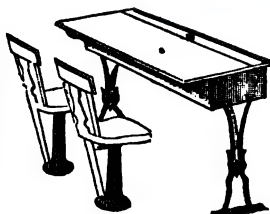
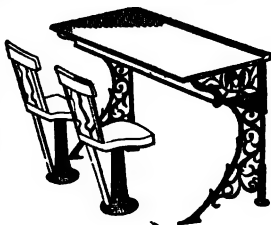
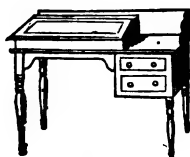
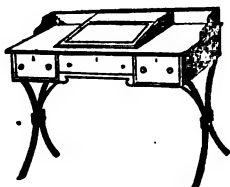
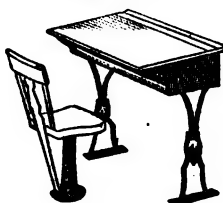
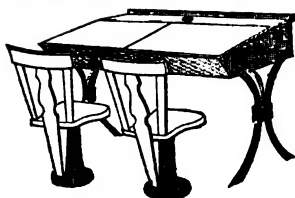
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**THE TRIBUNE,**


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Modern Style of School Furniture, Manufactured and for Sale by  
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N. B.—Circulars forwarded on application by mail or otherwise.

 A large supply constantly on hand.

# SCHOOL DESKS,

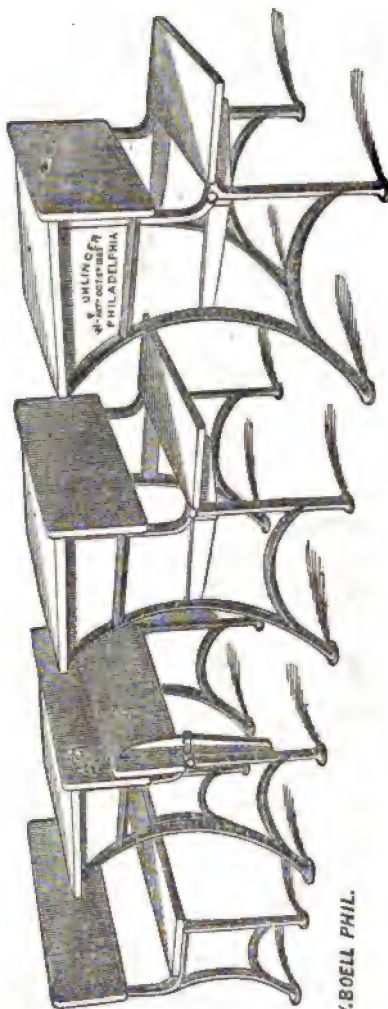
FOR

## PUBLIC AND PRIVATE SCHOOLS.

PRIMARY DESK.

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GRAMMAR DESK.



W. P. UHLINGER & CO. PHILADELPHIA.

These have been patented by the undersigned, and are now in general use in this city and elsewhere. They are made in the most improved style, combining elegance, durability, and economy, with every convenience and comfort to the pupils.

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There is no danger that the student will find the beginning of any science too easy. In Algebra, the beginner is required to learn a peculiar language, to determine new principles, and to accustom himself to a new and abstract mode of reasoning. Hence, the author of Bailey's Algebra has been diffuse in his explanations, and has made the subject so clear that a boy of twelve years, who is familiar with the fundamental principles of Arithmetic, can understand it, even without the aid of a teacher.

The following principles are observed :—To introduce only what properly belongs to an elementary work ; To adhere strictly to a methodical arrangement that can be easily understood and remembered ; To introduce every new principle distinctly by itself, that the learner may encounter but one difficulty at a time ; To deduce the rules from practical exercises, and to state them distinctly and in form ; To give a great variety of questions for practice under each rule ; To solve or fully explain all questions which involve a new principle, or the new application of a principle ; To show the reason of every step, without perplexing the learner with abstruse demonstrations ; To illustrate the nature of Algebraic calculations, and their correctness, by a frequent reference to numbers ; And, finally, to advance from simple to difficult problems, in such manner as may fully exercise the powers of the learner without discouraging him.

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**Specimens FOR EXAMINATION, by Mail, post-paid, 50 cents.**

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**512 Arch Street, Philadelphia ; 6 Custom-House Place, Chicago.**

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## **LARGE MULTIPLICATION TABLES**

**FOR THE SCHOOL-ROOM WALLS.**

**Price, mounted on heavy Binder's Board - - - 75 cents.**

**Price, Sheets, sent by mail, prepaid - - - 50 cents.**

These new and beautiful Tablets contain the entire Multiplication Table, in such large type that every figure may be distinctly seen from any part of the school-room. The figures are white, upon a blue ground, and the tablet is bound with red, thus presenting the neat and lively appearance of "the red, white, and blue."

The entire work is upon two sheets, and these are mounted upon heavy Binder's Board—Size, 26 by 20 in. Persons at a distance from New York and Philadelphia may obtain the sheets by mail, and fasten these sheets upon the wall, or mount them for themselves.

There can be no more useful or beautiful decoration for the walls of the Common School than these Tablets. Aside from the elegance of their appearance they will prove invaluable. Hung upon the walls, they will require no explanation ; and the pupil who is not otherwise engaged can perfect himself in the Multiplication Table during the idle moments which will sometimes occur in all Schools.

**SCHERMERHORN, BANCROFT & CO., Publishers,**  
**130 Grand Street, New York ;**

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# THE EUREKA LIQUID SLATING

MAKES A SURFACE WHICH RIVALS THE BEST WALL SLATES.

IT IS PERFECTLY BLACK, NEVER CRUMBLES, AND ALWAYS REMAINS HARD AND SMOOTH.

It is successfully applied to any kind of board or wall surface, and is invaluable in renovating old Blackboards. It has been used for more than nine years in some of the best Public Schools of New England, and the surface is as smooth and perfect now as when it was first applied. This proves the durability of the Eureka Liquid Slating.

It is securely put up in tin cans, and may be safely sent by express.

It is easily applied—full directions accompany it. By following the directions, any teacher may successfully apply the Eureka Slating, and make a *perfect slate surface*, wonderful in all the good qualities of *color, smoothness, and durability*.

**Price, \$1.75 per Pint; \$3.00 per Quart.**

5 per cent. discount on five gallons, and 10 per cent. on ten gallons, or more.

One pint is sufficient to prepare about fifty square feet of surface: hence it makes a very cheap blackboard surface. In the cities of New York, Philadelphia, Boston, and in other convenient places, we can send a person to apply it upon reasonable terms.

Please do not confound the EUREKA LIQUID SLATING with slating known by other names, or manufactured by other persons. For this, like most other really excellent articles, has its imitations. But no other slating can produce the *perfectly smooth, black, slate surface of the EUREKA*.

We can give testimony to almost any extent, from prominent teachers and school officers in every part of the country. It has been so repeatedly and so thoroughly tested that we do not hesitate to warrant the EUREKA SLATING.

## Testimony for the EUREKA LIQUID SLATING.

SOUTH BOSTON, MASS.  
We have used the Eureka Liquid Slating upon all our blackboards since September, 1864, and I do not hesitate to say that they are superior to the best stone slates.

O. G. CLARK, *Master Boston Grammar School.*  
The Eureka Liquid Slating will always give satisfaction when properly applied.  
JOHN D. PHILBRICK, *Supt. Pub. Schools, Boston, Mass.*

PALMYRA, N. Y., Dec. 8th, 1863.  
I have used boards made of almost every variety of wood; those made of "Hard-Finish," painted; those made of Plaster of Paris, Beach Sand, Lime and Lamp Black, and those made of Quarry Slate; and I am compelled to say that I think the surface made of Eureka Liquid Slating is decidedly superior to any thing I have ever used. If it could not be replaced I would not take \$50 for the Board in my recitation-room.

J. DUNLAP, *Principal Palmyra Classical Union School.*

GREENVILLE, N. J., Nov. 11th, 1863.  
The great desideratum is at last found—a smooth, jet-black, unbroken, durable blackboard surface, such as cannot be obtained in any other way, or by any other means, than by the invaluable "Eureka Slating;" *useful*, because, in my estimation, it excels in every desirable quality, the costly, jointed, grayish stone slating now in use. It is my conviction that the "Eureka," once tested, will become universally used. I most heartily commend it to my fellow-teachers, and all interested in educational improvements.

WM. H. STORRS, *Prin. Pub. Sch. Greenville.*

WHITE HALL ACADEMY, PENNSYLVANIA, Nov. 29th, 1862.

Two years ago I applied a quart of your "Eureka Liquid Slating" to about 120 feet of blackboard surface in my school-room, and it is now as good as when first applied; and during ten months of each year it has been used daily by about thirty pupils. The old surface was covered with ordinary lampblack and oil, and like most such boards was too smooth for chalk crayons. The "Eureka Liquid" produces the best surface for blackboards that I have ever used. Our School Board authorizes me to send for a gallon for other rooms.

WM. B. BIGLER, *Teacher.*

WHITE PLAINS, N. Y.  
Your Liquid Slating is wonderful. I applied it to some old blackboards, and it is very nearly like a stone slate.  
O. E. WILLIS, *Principal.*

TEMPLE GROVE FEMALE SEMINARY, SARATOGA, N. Y., July 1st, 1863.  
My Blackboards were slated about three years ago, and they are yet in perfect condition. There is nothing equal to this Liquid Slating.  
(REV.) L. F. BEECHER (D.D.) *Principal.*

PORTLAND, ME., June 6th, 1863.  
I have used it with hearty satisfaction. Mr. Benton, our Phonographic Instructor, remarks that he was prepared to find it good "but the half had not been told him." I have observed that, at where you please in the room, provided you can see the board fairly, every character written upon it is distinct to the eye, and is not obscured by the reflection of the light from its surface, as is the case with those which are covered with the common paint.  
H. T. CUMMINGS.

The Eureka Liquid Slating is having a great demand and gives perfect satisfaction. It was recently applied to some of the walls in Cooper Institute. Mr. Peter Cooper is highly pleased with the perfect slate surface which it has produced in that noble monument "to Science and Art."—*Ed. Herald.*

**SCHERMERHORN, BANCROFT & CO., Manufacturers,**  
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# NORMAL SCHOOL.

LEBANON, WARREN COUNTY, OHIO.

*Twelfth Year Commences September 5th, 1866.*

FULL corps of efficient and skillful instructors; ample accommodations for board at cost. Enrollment of past year over 600 pupils. Three courses of study sustained, viz: Classical, Teachers' and Business. The teaching, drill and practice are new and peculiar, differing so much from the instruction of Colleges,\* that the Classical Course, which requires five or six years in Colleges, is here completed, more thoroughly, in from two to three years, including preparatory study. The same proportional saving is made in the Business and Teachers' courses, and in the classes of each session. References: 4,000 pupils of ten years, engaged successfully in every department of business, and in all the professions.

*Good board in commons, - \$2 50 to \$3 00 per week.*  
" *in families, - - - 3 50 to 4 50 "*  
*Self Board, - - - - - 1 75 to 2 00 "*

Tuition, \$11 per 11 weeks. Liberal deduction to those entering for a course. Books rented at five cents a volume.

Pupils admitted at any time for 11 weeks: no vacations. \*

The expenses are less here, including the tuition, than at Colleges or other institutions which furnish cheap tuition on scholarships, or free tuition to soldiers or others.

The arrangements existing here, accomplish a thorough and practical Business, Scientific or Classical Education, in less than one half the time, ordinarily required. They have been tested by large numbers, from nearly all the various Schools and Colleges of the West, and our claims are fully sustained by such testimony.

We invite all young persons, desiring an education, to come and examine for themselves. Tuition will be charged for eleven weeks from the time of entering, and afterwards for the number of additional weeks.

 SEND FOR A CATALOGUE.

Address,

A. HOLBROOK,  
LEBANON, WARREN Co., O.

\* The comparison is given in the following pages.

# The Normal System of Education.

## CARDINAL PRINCIPLES.

1. That education is accumulation of physical, mental, and moral power, by self-development and voluntary effort, and not the mere acquisition of knowledge, from prescribed tasks and compulsory study.

2. That true government in education, is self government under a system of republican laws, and not mere perfunctory compliance with a system of laws prescribed by trustees and enforced by a faculty and spies.

3. That a true education of both sexes is accomplished more vigorously, harmoniously and certainly, by their mutual stimulus and sympathy during the course of study.

## THE NORMAL SCHOOL COMPARED WITH COLLEGES.

### TIME REQUIRED.

#### TIME REQUIRED IN COLLEGES FORMIDABLE.

Thousands of young persons are deterred from educating themselves, from the consideration that Colleges require from five to six years. This objection, entirely insuperable to most adults, exists in Colleges, from the fact that the study is compulsory, imposed by the faculty, under the erroneous notion, that a knowledge of certain books is an education; and from the fact that study so imposed being necessarily repugnant requires much more time and labor on the part of teachers and scholars than under the voluntary system.

#### LESS THAN ONE HALF THE TIME IN THE NORMAL.

This objection is now removed. Many persons, of both sexes and of adult age, are availing themselves of the shorter and better course sustained here, and are more than equalling their expectations in every particular.

In consequence of the peculiar and improved methods of instruction and drill pursued, a thorough and practical education in Mathematics, Sciences, Languages and Belles Lettres, is accomplished in two or three years: also for business, in two or three sessions of eleven weeks each.

### ECONOMY AND STUDY.

#### EXTRAVAGANCE HONORABLE IN COLLEGES.

Rich men's children are the "respectable class" in Colleges, and their lavish spending money not only begets idleness and profligacy in them, but makes economy and hard study unpopular, and subjects close students and especially those who are compelled to practice economy, to "patronizing airs" or ill repressed contempt.

### ECONOMY AND HARD STUDY POPULAR IN THE NORMAL.

Most of those in attendance here are using their own earnings, and know the value of time and money; hence, the spirit of earnest study is always in the ascendant. This is one reason why twice or thrice as much is accomplished in the same length of time as in any College, and why the training can be more thorough and practical. Study goes on with a will, and its disciplinary results are immensely more telling than under any system of compulsion.

### METHODS OF INSTRUCTION.

#### THE COLLEGE SYSTEM.

The long established method of compulsory, memoriter recitations of a certain number of pages or sections from a given text book is the great source of antagonism to effective study. This method, generally pursued in Colleges, tends to repress investigation, cripple free thought, and paralyze native energy. It is no wonder that from two to five years are required, after leaving College, for many graduates to recover from the comparative helplessness which this system produces; while not a few are entirely ruined by the vicious habits contracted under College influences.

#### THE NORMAL SYSTEM.

The plan of assigning subjects to classes for investigation and classification, preparatory to written or verbal recitation or discussion, has been found to open a new era in the life and progress of the student. None can resist the spirit excited in a class, urging every member to determined self-reliant effort for the mastery of the subject assigned. Few confine themselves to one text book, or can be satisfied with any one author's views. This general method, always modified and adapted to the particular character of subjects, the grade of classes, and the ever varying power of discussion, has wrought a revolution in all kinds of study and class-room drill, as a means of mental discipline.

### GOVERNMENT.

#### POLICE REGULATIONS IN COLLEGES.

In consequence of the idleness and dissipation generally prevalent in Colleges, rigorous rules and regulations are deemed necessary to maintain order and compel study, all of which force-work tends to arouse opposition both to order and study, even with the best of pupils. These rules must be carried out by the faculty, and by such spies among the students as are willing to engage in such business.

#### SELF GOVERNMENT IN THE NORMAL.

Such has ever been the overpowering spirit of study and emulation here, that no police regulations or detectives have ever been used or needed. This system of FREEDOM develops a manly self-reliance and an energetic individuality, that no other system can. Young persons of both sexes mingling without restraint are found able to take care of themselves. The experiment of ten years demonstrates not only the safety of the plan, but its necessity to any true, healthful, and rapid development.

## SOCIAL INTERCOURSE.

### THE SEXES SEPARATED IN COLLEGES.

The most mischievous vestige of the Monastic system still remaining more or less in all Colleges, is the separation of the sexes. It is fruitful of evil in many directions; some of which are personal self abuse, romantic and absurd notions of the other sex, endless and irrepressible intrigues to overreach the unnatural restraint, reading vile books, general repugnance to the entire system of education incorporating this absurd feature, stolen midnight walks, rides, revels and dances, neutralizing the moral power of the faculty, and blunting the moral sensibilities of the student; and last, not least, in being the occasion, if not the immediate cause, of nearly all the ill-timed and miserable matches so common with those educated in the College system.

The more rigorous the rules designed to enforce such separation, the more certain and deplorable are the results.

### SOCIAL INTERCOURSE UNRESTRICTED IN THE NORMAL.

The Normal System can no more tolerate barriers to free social intercourse than can any well regulated family, among its own members. While the peculiar gifts and graces of either sex are fully recognized, and their mutual fitness to each other's true and healthful development is constantly made use of as a powerful and indispensable agency, no rules but the unwritten ones of propriety and mutual respect inherent in the good sense and pure minds of the pupils themselves, can have any bearing or use here.

This entire freedom of either sex, ever chastened and purified by the all-pervading moral sentiment, tends inevitably to an adequate understanding of the true relation of the sexes, and to a suitable preparation of each sex to their appropriate and harmonious work in life. This, then, is another reason why the pupils of the Normal accomplish twice or thrice as much in the legitimate work of self-discipline as is accomplished under the unnatural and iniquitous restraints of College life.

The result fully justifies the experiment. It is every way a success. There are no runaway scrapes, nor ill-assorted matches concocted here. All parties become too well acquainted with each other, to fall into such folly.

## ILLUSTRATIVE FACTS.

### PUPILS GOING FROM THE NORMAL SCHOOL TO COLLEGES.

Those who have spent one year with us in the study of the Mathematics and Languages, and who, under sectarian pressure, have gone to College, have entered classes of the third or fourth year in Colleges, and led those classes; while,

### PUPILS COMING FROM COLLEGES,

ordinarily enter classes here that have studied the higher branches only as many quarters, as those so coming have studied years in the institution from which they came.

## GENERAL REMARKS.

### RELIGIOUS PRIVILEGES.

The comparison might be carried much farther. It will be sufficient, however, to add some general arrangements not found in other Institutions, viz: *No Restriction in Religious usages or worship* is enforced, though daily worship and semi-weekly religious meetings, are voluntary sustenance in the school.

Opportunity is enjoyed for worship with any one of seven denominations. A system of education that does not improve the moral and religious character, as well as the intellectual energy is worse than a failure.

### SUITABLE CLASSES FOR ALL GRADES.

So large is the attendance here, that almost any person will find such classes in nearly all branches, at any time, as he needs. No institution with a small attendance can form the requisite classes for such general accommodation.

### DIPLOMAS OF COLLEGES.

Literary Colleges give diplomas in five or six years, including the preparatory year. Commercial Colleges give diplomas in from sixteen to thirty weeks. The time has gone by when a diploma from a College is taken as evidence of business capacity. Every man must stand on his own merits, and *push* his own way in the world; otherwise he is a failure, and an institution that does not give this power is of little account, though it may be endowed a half a dozen times over, and have any number of professors living off the endowment.

### DIPLOMAS FROM THE NORMAL.

Beautiful and appropriate Diplomas will be awarded to those who honorably complete any one of the three courses, viz: Classic, Teachers', or Business. These Diplomas are given, not to show the number of books gone over, or the number of sets copied; but as testimonials of the Classic, Scientific, or Business ability, acquired in the respective courses of Training.

## RECAPITULATION.

Such are some of the features of difference claimed for the Normal or Direct system, in antithesis to the established modes and methods of the present College or Monastic system of education.

We recapitulate the main reasons why the pupils of the Normal who drink in of its spirit, progress more rapidly, truly and thoroughly, than those of other institutions:

- I. The cardinal principles which govern the plan of instruction and the management of the classes.
- II. The more direct and efficient methods of instruction.
- III. The self-supporting character of the large majority of the pupils.
- IV. The mutual, direct, and powerful influence of the sexes.
- V. The republican form of government.
- VI. The institution and all its teachers' being dependent on their own efforts and energy for their support.

## TEACHERS' DEPARTMENT.

### AIMS AND ADVANTAGES.

1. *A thorough and practical knowledge* of the branches is aimed at, and such as is especially adapted to Teachers' wants.

Besides the most searching analysis of every subject, and the systematic arrangement of its principles and truths, and the entire mastery of subjects so presented and investigated, the plan of instruction necessarily involves every form of illustration that can be brought to bear on the respective branches, including object lessons.

2. Subjects are taught rather than books, though certain text-books are adopted and used as such; yet in all the leading branches, the works of several of the best authors are consulted and compared, and their relative merits discussed, that graduates may be better prepared to advise judiciously and intelligently as to the adoption of text-books in their own schools.

3. A COURSE OF PRACTICE in teaching is pursued in the several branches. The pupil takes the place of teacher, for the time being, and manages a class under the eye of the Principal. His errors are thus pointed out, and his excellencies commended.

This course of PRACTICAL TRAINING in the several branches forms, more than any thing else, the prominent and distinctive feature of the Normal School.

Every attention is given to the means and methods of organizing, managing, and governing unclassified or country district schools, as well as Graded or Union schools.

4. A course of lectures is delivered, every session, on School Management, designed more especially to prepare graduates to overcome or avoid the various difficulties with which they meet in governing schools of their own.

5. SITUATIONS FURNISHED. In answer to frequent applications for trained teachers, the Principal has had the satisfaction of furnishing many worthy and thorough-going young men and women with good situations in Union or Graded Schools, at salaries ranging from five hundred dollars to one thousand dollars per annum; also many others with temporary locations in District Schools, at one hundred to one hundred and eighty dollars per quarter.

The demand for trained teachers is much greater than the supply; especially, for trained female teachers.

By spending one or more terms under Normal instruction and training, teachers may expect to receive an immediate increase of wages of from twenty to fifty per cent., besides enjoying the consciousness of increased usefulness.

Certificates are given to those who attend a term or more, and do not complete either course, but prove themselves worthy of confidence, as being able to teach and govern a school.

## BUSINESS DEPARTMENT.

### BUSINESS EDUCATION.

The great demand of the times is a thorough, practical, working, business education. To the Farmer, Mechanic, Physician, Lawyer, and Teacher, a familiarity with the constantly improving methods of conducting business operations, is no less important than to the Merchant, the Railroad, or Steamboat Officer, or Banker.

### TIME REQUIRED TO COMPLETE THE COURSE.

To a pupil well acquainted with Proportion, Percentage, and English Grammar, eleven weeks are sufficient; and if the entire time of the pupil is devoted to Book-keeping and Penmanship, six or eight weeks may answer, though eleven weeks, in every case, can be most profitably applied to Book-keeping, Finance, and collateral branches.

### SUPERIOR METHOD OF INSTRUCTION.

The Commercial Colleges advertise "*individual instruction*." If the pupil calculates how much individual instruction each of eighty or one hundred persons can obtain in a day from one or two teachers, he will see that individual instruction is the worst possible disposition of time, both for teacher and pupil, and that properly *graded classes* are indispensable to any really efficient system of instruction. He will also perceive that the wants and difficulties of individuals are met and overcome with vastly greater facility and certainty, in class drill, than in the individual system, laid aside years ago in all decent common schools, and yet boastfully pursued by Commercial Colleges. The assumption that *any* scholar is "kept back" by class drill and practice is an evidence of ignorance or quackery.

The inefficiency of the "individual method" of instruction is proven by the statement, that pupils in book-keeping are required "to go through (that is, copy) fifty sets," imposing thus an amount of labor which, if properly applied, would give the pupil not only a mastery of the science and art of Book-keeping, but of Arithmetic, English Grammar, and Algebra besides.

### OPPORTUNITY FOR ADDITIONAL BRANCHES.

A moment's consideration will convince any one, that the mere knowledge of book-keeping, however well acquired, will prove comparatively useless, unless the candidate for a situation can also frame an English sentence properly, and spell the words correctly; and, still farther, that since Commercial Colleges do not give such instruction—or, if they do, extra charges and very indifferent teachers are involved—they must be a failure, so far as a large class of pupils is concerned.

## ECONOMY

*Expense of twenty weeks in  
Commercial College*

|                            |              |
|----------------------------|--------------|
| Advised Tuition.....       | \$40 to \$50 |
| Unavoidable Extras ....    | 10 to 25     |
| Board, \$5 to \$10 per w'k | 100 to 200   |
| Stationery.....            | 10 to 25     |

Total expense for twenty  
weeks.....\$160 to \$300

*Expense of twenty weeks in  
Normal School.*

For a Course more Practical and  
Thorough.

|                            |              |
|----------------------------|--------------|
| Tuition.....               | \$20 to \$20 |
| No Extras.....             | 00 to 00     |
| B'd \$2 to \$4 50 per w'k  | 40 to 90     |
| Stationery, \$3 to \$5.... | 3 to 5       |

Total expense for twenty  
weeks.....\$63 to \$115

Thus a Business Course in a Commercial College costs from \$160 to \$300. A more thorough and practical course than any Commercial College can give, costs from \$63 to \$115, in the Normal.

## SECURING SITUATIONS.

Multitudes of graduates from Commercial Colleges, can be found in all parts of the country without situations, or engaged for their board, having learned that their commercial course, however much it may be spread in circulars, or puffed in the newspapers, is of little or no use, from the want of power to speak and write the English language correctly. Not a few graduates from the best of these Colleges, have come here to prepare themselves, in good earnest, for the real claims of a business life.

Pupils, having such fitness, can not fail of obtaining lucrative positions, sooner or later. They will most certainly win the confidence and respect of their employers, and thus speedily becoming necessary, can frequently dictate the amount of their own salaries.

*Young man, you cannot afford to be without an education.* By the improved and efficient methods of training invented and practiced here, you can prepare yourself in two or three years for any position that your natural abilities and taste may render desirable; or you can obtain the elements of a good sound business education in two or three quarters.

*Young Woman,* this is the only institution in which the education of both sexes is carried on with equal advantage to both, and where the peculiar gifts and graces of each have fair scope for their proper development.

Young Men, Young Women, all of you who expect to make your own way in the world, consider this: Any system of education must impart its own character more or less to its pupils. Will it not be well, then, to patronize an institution that lives and thrives by its own merits, rather than any one which relies on sectarian machinery to send it scholars, and on sectarian or State donations to pay the arrearages of an inefficient faculty.

## COME AND TRY THE SCHOOL.

So fully have these plans of government and methods of instruction and training been tested, that we do not hesitate to invite young people of every grade of advancement to come and try them for eleven weeks, and judge for themselves.



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Were awarded the Highest Premiums  
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And at numerous Institutes and County Fairs, including all the Fairs at which they were exhibited the past three years.

The GROVER & BAKER ELASTIC STITCH SEWING MACHINE is superior to all others, for the following reasons:

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2. It is more easily managed, and is capable of doing a greater variety and range of work than any other.
3. It is capable of doing all the varieties of sewing done by other machines, and, in addition, executes beautiful embroidery and ornamental work.

The Grover & Baker S. M. Co. manufacture, in addition to their celebrated GROVER & BAKER STITCH Machines, the most perfect "HUTTLE, or "LOCK STITCH" Machines in the market, and afford purchasers the opportunity of selecting after trial and examination of both, the one best suited to their wants. Other Companies manufacture but *one kind* of machine each, and *can not afford* the opportunity of selection to their customers.

\* \* \* A pamphlet containing samples of both the Grover & Baker Stitch and Shuttle Stitch in various fabrics, with full explanations, diagrams, and illustrations, to enable purchasers to *examine, test and compare* their relative merits, will be furnished, on request, at our offices throughout the country. Those who desire machines that do the *best work* should not fail to send for this pamphlet, and *test and compare* these stitches for themselves.

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Its business has just been thoroughly reorganized, and its central office (in New York) has been removed to larger quarters, where greater facilities will be afforded in extending its sphere of usefulness.

### "The Right Teacher for the Right Place."

Information of teachers will be furnished, which shall embrace the following particulars: Opportunities for education; special qualification for teaching; experience, where, and in what grade of schools; references and copies of testimonials; age; religious preferences; salary expected; specimen of candidate's letter, and sometimes a photographic likeness. Unless otherwise advised, we nominate several candidates, and thus give opportunity for good selection.

Those who seek teachers should state explicitly what they will require of the teacher, what salary they will pay, when the teacher must be ready, etc., etc. Too full particulars can not be given.

**TERMS:** Two Dollars upon giving the order for the teacher. (Which pays for the "AMERICAN EDUCATIONAL MONTHLY" one year, \$1.50.) When a suitable teacher is secured, Three Dollars additional. Postage used in corresponding with Principals, and in their behalf, with candidates, will be charged. No charge to Public Schools, except the preliminary fee of Two Dollars and one postage.

Principals, School Officers, and heads of Families, should give early notice of what Teachers they may want.

Teachers who want positions should send for "Application Form."

### Testimony for the "American School Institute."

I know your "AMERICAN SCHOOL INSTITUTE" to be possessed of the most reliable and extended facilities.—[REV. C. V. SPEAR, *Principal Young Ladies' Institute, Pittsfield, Mass.*]

The benefits of a "division of labor" are happily conceived and admirably realized in the "AMERICAN SCHOOL INSTITUTE."—[EDWARD G. TYLER, *Ontario Female Sem., N. Y.*]

Experience has taught me that I may safely rely upon it when I want teachers.—[REV. J. H. BRANLEY, *Bordentown Female College, New Jersey.*]

I commend it to the entire confidence of all.—[REV. D. C. VAN NORMAN, LL. D., *New York.*]

The business of the Institute is systematically conducted. The proprietors are liberally educated, and otherwise eminently qualified for their duties.—[O. R. WILLIS, *Principal Alexander Institute, White Plains, N. Y.*]

I am very grateful for the prompt services which the "AMERICAN SCHOOL INSTITUTE" has rendered in supplying me with excellent teachers.—[REV. C. W. HEWES, *Female Seminary, Indianapolis, Indiana.*]

I have tried the "AMER. SCHOOL INST." and regard it a most desirable medium for supplying our schools and seminaries with the best teachers, and for representing well-qualified teachers who wish employment. All who are seeking teachers will find a wide range from which to select, with an assurance that in stating character and qualifications, there is no "humbug," and there can be no mistake. Teachers will find situations for which they may otherwise seek in vain. The highly respectable character of the gentlemen who conduct the "INSTITUTE" affords a sufficient guarantee, not only of fair dealing, but also of kind and polite treatment to all.—[REV. EERN S. STRAEN, *Principal Albany Female Academy, N. Y.*]

The most remarkable exponent of what method may accomplish, is that system of educational tactics, as conducted and developed by the "AM. SCHOOL INST." Here is a set of gentlemen who keep posted on the entire educational wants of the country. Every department, high or low, comes within the plan. The apparatus, the literature, the wants and resources of education, are tabulated in a *Bureau of Educational Statistics*.

Mark the value of such knowledge. In a time consideration, what saving! Instead of schools being closed or suffered to decline until the right man turns up, one is provided whose caliber is known—"The right man in the right place." The loss of time, misdirection of talent, imposition by unprofessional chicanery, each in itself no small misfortune to patron or pupil, are happily avoided.—[REV. SAMUEL LOCKWOOD, *Keyport, New Jersey.*]

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VOL. III.

JUNE, 1866.

No. 6.

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## SHORTCOMINGS OF PUBLIC SCHOOLS.

FROM the late message of Governor Fenton it would appear that he largely attributes the admitted deficiency of the Public School System to the lack of capable public instructors, and he recommends an increase of normal training-schools to obviate the difficulty. There is no reason why excellence in a public instructor should not be obtained in the same way and by the same means that excellence is obtained in any other trade or profession. While the inducements held out to civil engineers, lawyers, book-keepers, and traffickers, exceed those afforded by public parsimony to principals of schools, it is questionable whether the most able and energetic of pupils so instructed, could be retained in the ranks of teachers. The schoolmaster is not paid with reverence as the clergyman, nor with fame as the poet; and, as a rule, will be found to appreciate the importance of wealth as well as his neighbors. It would not be amiss for the State authorities, under the distressing circumstances of which the governor complains, to try the effect of the plan instituted by the Frenchman, who, seeing a number of verbally sympathizing spectators standing round a laborer who was injured by falling from a scaffold, stepped up to him, and, suiting the action to the word, exclaimed, "Sare, I'm sorry for you—one dollare." Fearing I have not made my meaning sufficiently plain in the foregoing, it is necessary to add, that, in this mercenary age, most men expect to realize pecuniarily on their abilities; and teachers are no exceptions to this rule. Some years ago, when young men went into business on speculation in New York, and acquired fortunes in a short space of time, a young son of Maine, who had been one of the fortunate ones, on revisiting his home in the North, met his brother, who had remained in their native village. "Sam, is that you?" exclaimed the brother. "You look well; how have you been this long time?" "Oh! I'm all right," replied Sam; "but what are you doing? you look rather seedy." "Me; I'm preaching." "What salary do you get?" "Only two hundred a year." "Very poor pay." "Yes," replied the brother; "but it's very poor preaching, too." The moral of this is, that the quality and effi-

ciency of the educational corps will be proportionate to the sum which commands it.

The constant changing of instructors, especially in the Primary Departments, is also a grievous evil. It operates painfully on the feelings of both children and teachers. The little one of tender years, fresh from home, easily appreciates and rapidly attaches itself to its first teacher. In about six months these cords of affection are severed, and the child is removed to a higher class. Its distrust, to use no harsher word, of its new preceptor, ranges in an inverse ratio to its affection for its former instructor; and by the young and thoughtless teacher, is apt to be reciprocated in too many instances. The semi-annual repetition of this indurating process, hardens the feelings of the child and changes its heart of flesh into stone. The present age beholds and bewails the lack of affection too often exhibited by children to their parents; but such children, when they take their place as parents of the third generation, in spite of Lear's eloquent invective, will, it may fairly be presumed, be better able to bear the infliction.

The next charge may be considered as involved in the two former; it is, that under the present system, few teachers look upon the instruction of youth as their permanent occupation. Of public instructors now engaged in this State, it may safely be asserted that fully one-fourth will be employed in other occupations before the next census is taken. A large proportion of these are young girls. It is manifest that many causes will and must contribute to deplete their ranks. As a general rule, they do not hesitate to admit they dislike their profession. With the many, it is only a stop-gap between girlhood and matrimony. Possibly the Primary Department suffers most under this infliction. Tender guidance, careful supervision, and firm government should dignify this department; a matron of mature years should preside over it; and the emolument attached to the position should be such as to command the permanency of the occupant.

The propriety of congregating masses of children of all ages and both sexes in numbers ranging from eight to eighteen hundred is, and well may be, contested by experienced teachers. It is admitted that physical, and, in some cases, mental or intellectual drilling, can be accomplished *en masse*. But the inculcation of morality is a different affair, often requiring special supervision; and even though the State be willing that morality should be dispensed with, it is certain that it would disapprove of immorality being communicated; and it is questionable if this be not the case in many of our public schools. Moral malarias are far more subtle than physical, and their effects are far more difficult to detect and remedy. It would be unwise to trust Rarey himself with a valuable colt, if he had a thousand others in training at the same time. Moral infirmities are also infinitely more varied than physical. They require especial and individual treat-

ment, differing in almost all instances. There are many persons capable of training an army of one or two thousand children, but to faithfully superintend the physical, mental, and moral education of one or two hundred is a labor of Hercules. It may be asserted, that those who most fully appreciate the duties of their profession, who are most experienced and most capable, would be most ready to admit their inability to fulfill all the requirements of such an obligation.

The immediate elective public supervision at present existing is also an excrescence that must be removed. The teacher and the justice of the peace should be above the people, and only amenable to authorities capable of adjudicating between themselves and the public. The operation of this evil element has disorganized some and demoralized many of our schools. It is hardly possible to go into any village in the State satisfied with its schoolmaster, but you will be informed secretly that the trustees have obtained him at a far lower rate than he ought to command. You will do well not to intimate that they may be incompetent judges of the mercantile value of the article—instructor.

The last evil I shall mention is the evident attempt, on the part of our school dignitaries in this city, to take the power of physical, or, if you please, corporal punishment from the principals of our public schools. They would seem to be doing their best to make the head of the school a *roi faineant*, or a mayor of the city of New York. Are not the authorities aware that what their preceptor can not do is more promptly learned by the children under his charge than what he can do? Impotent for evil, he will also be impotent for good—a mere master of the ceremonies, instead of an absolute ruler. Dr. Busby, of scholastic fame, was so impressed with the importance of preserving his dignity in the eyes of his pupils, that when he exhibited his school to the king, he marched through it before him, covered, and did not take off his hat till he went into his study, when he apologized for his conduct in the following words: "I pray your majesty's pardon for this seeming discourtesy; but if my boys knew there was a greater man in the kingdom than myself, I could not rule them a week."

Our children, if this obtains, will be better instructed as to the position of their ruler; and, perceiving that no confidence is placed in his discretion by the public, are not to be blamed if they also decline to yield him a ready obedience.

The historian Alison asserts "that the national system of education inculcates immorality." The alarming increase of juvenile crimes and consequent committals, in our larger cities, which, in some instances, have advanced two and even threefold since 1840, would seem to justify his assertion. Under these fearful circumstances is a sickly sentimentality to deprive the schoolmaster of one, and, in some cases, the only curb to the spread of infectious immorality, by circumscribing his power of corporal chastisement privately administered? It is admitted that children prop-

erly educated rarely or never need such punishment. But how many are thus trained? How many are neglected! How many are viciously instructed by evil example before they enter the doors of the school-house! Rely upon it, the moral order of nature will not be inverted. The experience of the past ought to teach us that punishment in some form will ever overtake crime. If the parent omits proper correction, it devolves upon the schoolmaster to apply it: if he also be compelled by public authority to neglect and evade his duty, the necessary performance will only be transferred from the ratan and the school-house to the locust and the prison.

---

### THE POTATO.

THE potato belongs to the family *Solanaceæ*, and is, therefore, closely allied to the narcotics, henbane, tobacco, and belladonna, as well as to the esculents, egg-plant and tomato. It is said to contain nicotina, though in small quantity, and principally in the portions exposed to the light.

#### NATIVE COUNTRY.

Humboldt maintains that the native country of the potato is unknown, as it is never found except in a state of cultivation. He asserts that it is not, as supposed, indigenous to Peru, he and M. Bompland having herborized along the Cordilleras without finding a single specimen of it in the wild state. This assertion is certainly erroneous, for at that very time Pavon, author of the *Flora Peruviana*, wrote that "the *solanum tuberosum* grows wild in the environs of Lima, and fourteen leagues from Lima on the coast; and I myself have found it in Chili." Caldcleugh brought from Rio Janeiro two tubers of the wild potato, which he represented as growing in great profusion in ravines near Valparaiso, where it is termed *maglia* by the natives, but it is not employed for any purpose. The plant is sometimes found growing wild in Mexico, but is supposed to have been introduced by Spanish settlers.

#### INTRODUCTION INTO EUROPE.

It is most likely that the potato was introduced by Sir Walter Raleigh into Ireland, for Mr. Thomas Herriott, one of Sir Walter's company, thus describes a plant called "openawk" by the natives: "These roots are round, some as big as walnuts, others much larger; they grow in a damp soil, many hanging together as if fixed on ropes; they are good food either boiled or roasted." Gerard, in his *Herbal*, describes it accurately under the name *Batata Virginiana*, and gives an excellent figure of



it : " It groweth naturally in America, where it was first discovered, as report says, by Columbus, since which time I have received roots from Virginia, otherwise called Nurembaga, which grow and prosper in my garden as in their country." The name potato was evidently given to it because of its resemblance in form and qualities to the batata, or sweet potato, from which it was distinguished, until 1640 or even later, as the potato of Virginia.

In Ireland the plant came rapidly into favor ; but in England, Scotland, and France it was, for a century, to be found only in flower gardens, being believed from its associations to possess poisonous qualities. In England a strong prejudice existed against using potatoes as food, because they were not mentioned in the Bible ; and until 1760 they were not cultivated as a field crop. In 1728, Thomas Prentice, a Scotch laborer in Stirlingshire, began to raise them for his own use, and sold the surplus to his neighbors. The vegetable became very popular, and Prentice secured a competency. In France, the prejudice prevailed until a time of scarcity during the Revolution.

It appears that the potato was brought into Europe at an earlier period by a different channel. Clusius, residing at Vienna, received it in 1593 from the governor of Mons in Hainault, who, in the preceding year, had received it from the pope's legate, by whom it was called "*tara toufi*." It was then in use in Italy under this name ; but the legate could not tell whether it came originally from Spain or America. In 1553 one Peter Cieca stated that "in Quito they have besides maize a tuberous root called *papas*, which they eat." Clusius regards this as the plant which he received from Flanders. It is therefore probable that the potato was brought to Spain at a very early period, for it would require several years to bring it into notice there, and a considerable time after that to render the Italians so familiar with it as to specify it by a popular name.

#### USES OF THE POTATO.

*Food.* Chemically considered, the potato is a most valuable article of food. It contains starch, albumen, and phosphorus, with a considerable proportion of salts of iron, lime, and soda—all the essentials necessary for maintenance of animal life. The nitrogenized, or, as Liebig terms them, the "tissue making" principles, are the more important ; and the worth of any substance as food is determined by the amount of these which it contains. Viewed in this respect, 126 parts of potato dried at 212° F. are equal to 100 parts of wheat flour. It contains 84 per cent. of the amount of nitrogen in an equal weight of milk, and about 10 per cent. when compared with an equal weight of beef or white of egg. Six pounds of boiled potatoes *per diem* are sufficient food for a healthy man, although, according to some writers, a hearty Irishman eats about twelve pounds.

*Starch.* Starch may be prepared from the potato without difficulty by

crushing the tubers, washing the pulp, and straining it several times through a fine sieve. The starch, with soluble substances, passes through, and, upon standing, soon falls to the bottom. The water should be poured off, the starch well washed and dried in a warm room. When thus prepared, it will keep unchanged for years. This starch is readily converted into dextrine or British gum, which is now much used as a substitute for gum arabic. It may also be converted into glucose or grape-sugar, by boiling it several days in dilute sulphuric acid, and then neutralizing the solution with chalk. The filtered liquid must be rapidly evaporated to a sirup, and then slowly concentrated, when it affords a granular sugar. Glucose, thus prepared, usually contains sulphate of lime, is therefore bitter, and can be used only in the adulteration of the cheaper sugars. It is manufactured very largely for this purpose in England.

*Alcohol.* In France potatoes are extensively used in the production of spirits, as one hundred pounds of potatoes afford thirty pounds of spirits. Frosted potatoes are used for making wine, which doubtless is quite as good as the turnip-juice guzzled in America under the name of champagne.

#### DISADVANTAGES ARISING FROM GENERAL USE OF THE POTATO.

The proprietor of a small plat of land is able to procure by little labor a sufficiency of a food which requires the aid of neither the miller nor the baker to render it edible. He is consequently independent of his fellows, and becomes indolent. The natural event is, that the bonds of society are loosened, and civil government is apt to become merely nominal. The ease with which the potato may be cultivated, its amazing productiveness, and its value as food make it a favorite in densely populated countries, and render it liable to become the standard, to the exclusion of other crops. It is especially subject to disease, even though due rotation be observed; so that where, as in Ireland, it is the chief dependence of the lower classes, disastrous famines are at any time likely to occur. That these are not imaginary results is evident in Southern Ireland, where potatoes are the staff of life. The people are lawless and indolent, and the country has several times been devastated by dreadful famines.

#### DISEASE OF THE POTATO.

Of the many diseases to which the potato is liable, the most destructive is the "gangrene" or rot. This may be dry, when the tuber shrivels and hardens; or moist, when it becomes wet and offensive. In the latter, *gangrena humida*, the tuber is at first hard, and the starch cells appear rudimentary; but as the disorganization advances, the substance becomes watery, and little globules of starch, set free, may be seen floating about in the fluid. In the *gangrena sicca*, or dry rot, the decomposition usually begins at the interior, so that the potato retains its form. At the diseased spot the fibers dry up, become white or brown, and an irregular

cavity forms, in shape like the letter X. Sometimes the gangrene may begin near the bark, and the cavity appear externally. In some cases of dry rot the tuber became as hard as wood, and was susceptible of high polish.

*Causes.* Various causes have been assigned for this disease ; excessive moisture, great cold or heat, excess or deficiency of light, electricity, and the influence of the east wind. High temperature and excessive moisture may induce gangrene, and they do materially advance it when once begun ; but they can have no extended influence, for the disease occurs in dry and cold soils. Manures have been mentioned as probable causes. Doubtless, these, with their stimulating action, are injurious, but they only render the plant succulent and cellular. Rotten potatoes invariably nourish fungi, which were consequently regarded by many as the source of disease. This hypothesis is improbable. All decaying matter is thus marked, but the fungi never appear until decomposition has set in. Smee frequently attempted to inoculate sound potatoes with them, but always failed. Fungi, therefore, have no share in producing or advancing the disease.

The true nature of the disease was discovered by Mr. Alfred Smee, who ascertained that it is caused by an insect which he terms the *aphis vastator*. The fecundity of this creature is almost incredible. Reaumur has proved that in five generations one aphid may be the progenitor of 5,904,900,000 descendants, and there are about twenty generations per annum. One female may produce young for nine generations without contact with the male. The aphid first attacks some large and nearly exhausted leaf, where the amount of water expired is not great, and passes thence to others until the foliage is totally destroyed. There being no longer a digestive apparatus, the sap ceases to form, but the roots continue their absorbing action ; the cells become distended, water exudes from the collar, and decomposition sets in. The life of the destroyer does not terminate with that of the plant. When nourishment is no longer afforded, the insect assumes the pupa state, from which it soon emerges with wings. In this condition it moves in great multitudes from place to place, destroying in its path the beet, turnip, and spinach crops.

*Remedies.* In ordinary seasons, the aphid is repressed by lady-bugs and the soft-billed birds ; but these are insufficient where the insect appears in vast numbers, and resort to artificial remedies is necessary. The aphid is easily drowned ; and some have, therefore, recommended syringing the plant with water ; but this is useless, for the insect is always found on the under side of the leaf, and besides can not be washed off, as it is so firmly attached by its suctorial apparatus as to be unable to move itself for several seconds after being disturbed. Quicklime has been found to destroy the animal immediately ; and Smee says that many have succeeded in arresting the rot by sprinkling this substance over the leaves. This is cheap and of easy application, and is well worthy of thorough test by

agriculturists. As ducklings devour this aphid greedily, it might be well to rear these in large numbers when the disease is expected. Stringent laws should be enacted for the protection of soft-billed birds. Great care should be taken to avoid contagion ; and such crops as the beet and turnip, which are equally liable to attacks by the aphid, should not be planted in or near potato lots. Early varieties are less likely to be affected than the later, as the *vastator* seldom appears in force before July or August.

In 1848, Dr. Klotsch, keeper of the Royal Herbarium at Berlin, offered the following plan for preventing the disease : " In the fifth, sixth, or seventh week after setting out the tubers, and in the fourth or fifth week after planting germs furnished with roots, or at times when the plants are at a height of from six to nine inches above the soil, pinch off the extreme points of the branches or twigs to the extent of one-half inch downward, and repeat this on every branch or twig on the tenth or eleventh week, no matter at what time of day." The operation of this plan is easily seen. By clipping the ends of the twigs the leaves are kept in a healthy state and do not become exhausted. The aphid can not begin on an active leaf, as the water expired would drown it. The expedient of clipping, therefore, affords considerable protection, although its success did not equal the expectations of Dr. Klotsch. However, it requires more labor than is repaid by the crop, and consequently is no longer employed.

---

## A PLEA FOR COMPULSORY EDUCATION.\*

"SALUS POPULI, SUPREMA LEX."

IT is now, perhaps, universally admitted that every human being has an inalienable right to as much education as shall make him a good citizen, and virtuous member of society. It is also generally acknowledged that it is the duty and interest of society to provide for this ; and the more humane and enlightened spirit of the present day is becoming more and more satisfied that as prevention is better than cure, it is a wise and true policy to institute measures to prevent (or at least to reduce to the minimum) the formation of a criminal class, rather than afterwards attempt, by severe and repressive measures, to extirpate its hydra heads. But our educational reformers have heretofore been too apt to rest satisfied with the assumption that the *means* of education being provided, the thing was done ; that the school being accessible to the child, the

\* Extracts from a paper read before the Scottish Central Association of Schoolmasters, at Alloa, by John Macturk, Esq.

child should necessarily be educated. Accordingly, schools have been multiplied to a great extent—in some localities quite beyond their requirements. There are, perhaps, very few places in this country destitute of the means of education. But notwithstanding the vast array of educational appliances thus provided, there can be no dispute as to the fact that over the whole country, more especially in crowded city populations, and the great centres of industry, great masses are growing up in ignorance and vice, nearly, if not altogether, unamenable to the school influences around them. In addition to the ignorance, apathy, poverty, and vice of the parents, there is the great temptation (more powerful than any) to turn the child's labor to account at the earliest possible moment, and thus keep or remove him from school instruction. As a general rule, it is not inability to pay the school-fee that weighs with the parent, but the desire to profit from his child's earnings. There is no inherent virtue in stone and lime to attract scholars, though enhanced with all the best appliances and means of education. Moral suasion has been the favorite, and formerly a rather successful instrument in bringing scholars to school. But in these days of great demand for juvenile labor, it has but little weight, and other expedients of a more questionable character have been resorted to. In the presence of the vast amount of ignorance and consequent vice in the country, so distinctly brought out by statistics and reports innumerable, various schemes have been set on foot to check this ever-swell ing tide. Ragged schools, Sabbath schools, evening schools, reformatories, the factory act, and many other agencies have now been in active and zealous co-operation with the ordinary machinery of education, long enough to test their respective and united powers. But, notwithstanding, their success, at best, has been only partial; and even their most sanguine advocates and supporters confess their inadequacy, even unitedly, to cope with the juvenile ignorance and depravity around.

There can be no doubt that, theoretically, the best security for the sufficient education of every child will be found in the conviction of the parent of the inestimable value of that education, and the resolution to make every sacrifice necessary for its attainment. But such a happy condition, universally, can only, I fear, be found in Utopia, or at the millenium; meantime, we must take human nature as we find it.

The country has been slow to broach, much more to sanction, any plan of a compulsory nature, until all the expedients had been tried that could be considered feasible. At last, every other plan having apparently failed to secure the desired results, men's minds are falling back upon that plan which, by a harsh name, is called "compulsory education," and which, though present to many minds, they did not like to name. The people of this country are jealous, and justly so, of their rights and liberties, and will endure no infringement of the privileges of even the meanest of the subjects. Among these, the right of the parent over the child is a

sacred right, and ought to be jealously guarded. We saw continental despots creating great systems of public instruction co-extensive with their dominions, and compelling every child to come in and be instructed ; and we took the alarm, and inwardly resolved that no man, be he king or kaiser, should ever deprive a free-born Briton of the privilege of bringing up his child, if he chose, in glorious ignorance. We imagined it was a sort of kindness indulged in only by a "paternal" government, forgetting that it has been equally the favorite of the free Cantons of Switzerland and the jealous democracy of New-England. The sturdy Puritan fathers, who shivered tyranny in the Old World, and fled for freedom to the wilds of the New, had no such sentimental weakness about "the liberty of the subject." "The liberty of the subject" is a fine phrase ; but what, in this country, does it signify ? A human being, in civilized society, forfeits many of those privileges and liberties which he enjoyed in a state of nature. He is no longer

"Free as when nature first made man,  
And wild in woods the noble savage ran."

Society has claims upon the individual as much as the individual upon society ; and it is always a nice problem how best to secure individual liberty, and reconcile it with the rightful demands of the body politic. But in the matter of education, the interests of the individual and those of society perfectly harmonize. As every rational being is endowed by his Maker with powers of mind and faculties of soul capable of indefinite improvement, and, according as these powers are neglected or improved, with a mighty destiny before him for good or for evil, it does violence to the moral nature, and thwarts the high behests of Providence, to refuse to a single child the means of culture for the glory of God and the good of humanity. Education is the inalienable birthright of every rational creature. A sound and enlightened education is now acknowledged to be as important to the welfare of society, as to that of the individual ; and society sins against its dearest interests when, from false sentiment, or timid counsels, or narrow and sordid views, or stolid indifference, it permits any of its members, even the meanest, to grow up in ignorance and licentiousness. Far be it from me to desire the State to assume the functions of the parent—that were a great evil in itself—except where the parent, through ignorance, or wilfulness, or incapacity, refuses to do that duty which enlightened reason and public opinion declare to be for the best interests of both child and State. But it is false policy, and as injurious as it is false, to defer to the ignorance, or caprice, or selfishness of the multitude in a matter so vital. Let them cry out about "the liberty of the subject,"—

"License they mean, when they cry liberty."

Is the *prevention* of crime a greater infringement of liberty than its *pun-*

ishment? The liberty to remain ignorant may well rank with the liberty to starve. "Liberty, I am told, is a divine thing," says Carlyle. "Liberty, when it becomes the liberty to die by starvation, is not so divine! Liberty requires new definitions." "I think it is a totally mistaken idea of liberty," says Dr. Cairns, of Berwick, in his evidence before the royal commission on this point, "to leave every thing to the lawlessness of the least instructed class of parents of a country." The Latin adage well expresses it—"Salus populi, suprema lex." Besides, education, apart from the religious element, does not lie within the domains of conscience; and as no one seeks to obtrude that element upon any, we intermeddle with no conscientious convictions, and there is no infringement of the sacred rights of conscience.

In sanitary matters, we take care that no man shall do as he pleases, if that pleasure seems likely to injure his neighbor's health, and no one then talks of infringing the liberty of the subject; and as little ought we to allow our neighbor to grow up in ignorance and crime, to become both a moral and material pest to society around him, not only to promote, but perpetuate crime. We have compulsion as to vaccination, as well as to the registration of births, marriages, and deaths, and in all these cases without complaint, and with the happiest results. Why not, then, also in relation to education? As has been well remarked, "It would benefit the careless and now uncared for, while it would not affect the thoughtful, who already discharge their duty; just as sanitary regulations bear only on the negligent, without annoying the already cleanly and the provident."

But after all, I do think the cry about the liberty of the subject, as affected by compulsory education, is more a fanciful bugbear of theorizing and speculative educationists, than of the working classes themselves. I believe the decent portion of them, at least, would hail it as a boon, and the only cure for existing evils; as a protection to themselves against the temptation to sell their children too early to toil; as a protection to them against the expense of maintaining those whom ignorance and vice have brought to poverty; and as a real blessing thrust upon their worthless neighbors. I hope we are now about to realize the noble, yet simple policy of John Knox, whose sagacity and largeness of view, as regards education, is every year becoming more apparent, so that even our attempted reforms are merely extensions or adaptations of his principles. And in the matter of compulsory education, he was far before us. His "First Book of Discipline" provides not only "that every several kirke have ane schulemaister appointed able to teach grammar and the Latin tongue," but it also enjoins that "provision be made for attendance of those that be poor; for this must be carefully provided, that no father, of what estate or condition that ever he may be, use his children at his awn fantasie, especially in their youthhead, but all must be compelled to bring up their children in learning and virtue." Compulsory at-

tendance seemed to him the necessary corollary to a national system of education such as he contemplated, commensurate with the wants of the country. And now that it is in earnest proposed to make adequate provision for every child in the land, I hope it will be established, as a necessary sequel, that every child shall take advantage of the education thus provided. As long as it could not be proved that the school was accessible to every child, it might be argued as cruel or inconsistent to require or expect every child to be sufficiently taught, and to inflict penalties in case of failure. But when the school is, so to speak, brought to every child's door, it seems to me most illogical and unwise not to insist upon every child taking the full benefit of it. If the country is to be *compelled* to build schools, are the youth of the country not to be *compelled* to frequent them? If there is *compulsion* on the one hand, why should there be no compulsion on the other? It would be erecting a large, cumbersome, and costly machinery, well manned and well equipped, and yet never caring to see that the *pabulum* upon which it is to operate is really brought within its sweep. Let us see to it that our great national machine not only works well, but that all the available raw material of the country comes in for its due amount of elaboration and culture.

Adam Smith says, "The State should take means for imposing education on children;" and he proposed that no person should be allowed to open a shop, or become a member of a corporate body in a town, unless he could read and write. So convinced was this eminent philosopher that knowledge promotes the true "wealth of nations," and that ignorance is the ruin and reproach of any state! And if the people of this country are to be admitted to a still larger share of political power, still more urgent are the reasons for anxiety to qualify them by increased intelligence for the right exercise of their privileges.

While several of the most enlightened of foreign nations (including most of the States of Europe) have adopted the principles thus recommended, "and compel their children to be brought up in learning and virtue," this country has never yet reached "the height of this great argument." It is not necessary here to enter into any account of the differently modified forms of compulsory education adopted by these several States. I would certainly most earnestly deprecate the idea of Prussianizing our schools, or, indeed, any direct form of compulsion. I would, of all others, prefer that indirect form of it, which is termed an *educational test*. I would like to see the principles of the factory act extended to all industrial employments whatever, in the field as well as the public work, so that no employer of labor,—the small tradesman as well as the large capitalist,—should, under a penalty, receive into any stated and regular employment any child, without restriction of age, who did not produce, from a duly registered or certified teacher, or other accredited authority, a *certificate* that the child's attainments in reading, writing, and arith-



metic were such as would really be serviceable to him in after-life. Direct compulsion would be harsh and arbitrary ; and sure to be unpopular, would require a cumbersome and expensive machinery, and would rob the parent of his sense of responsibility. The indirect method would act as a check by a very simple machinery, and would, from the consequences of neglect, teach the parent forethought, and the necessity of self-denial. I would have no restriction as to age. I would lay down the broad principle, that no matter what may be the age, unless the child be sufficiently educated, he has not received the necessary qualification to be merged in the general population as a responsible member of society, and entitled to all its rights and privileges.\* His admission might endanger the moral health of his associates : let him perform quarantine till he is pronounced free from the taint of ignorance. If you fix an age, you impose undue restrictions and disabilities on those who are qualified before the legal age, and thus punish and discourage the provident parent who has early and carefully seen to his child's schooling. If you fix an age, there are a thousand ways in which a selfish parent can employ his child at remunerative work, and yet not in regular and stated occupation, by which the allotted school-years may be trifled or wasted ; and when he has reached the legal age you can not deny him work, however ill-instructed. It may so happen, indeed, that he will never, from incapacity, acquire the minimum amount of school attainment. But just as in the vaccination act, certificates of insusceptibility are admitted, so, when requisite, let there be certificates of non-susceptibility of learning.

It is of paramount importance to see that the child can do what he professes with ease and accuracy. Reading and writing are merely arts and means to an end—that end, moral and intellectual culture ; and if these are not acquired to such a degree as to be used with ease, they will never be used with pleasure ; and unless the taste for mental improvement has been originated and quickened by school, or other influences, these keys of knowledge will soon rust from disuse, and become as profitless to their possessor as if they had never been his. A little knowledge may not, as the poet says, be a dangerous thing ; but, assuredly, only a *little* reading, and a little writing, are about as good as none at all. Let the standard be ever so low, it must be thorough.

I do not suppose the plan I have suggested would not require modification in details in actually working it. I am anxious only for the recognition and application of the principle. I am not so sanguine as to fancy it would reach every case, and leave no child's moral and intellectual nature uncared for. There would still be ample room for the utmost exercise of charity and benevolence. The pauper's child would, of course, as at present, be cared for by law ; the willing, but needy parent, not a pauper,

\* The law in Sweden considers a man a minor unless he can read and write.

should have provision made for his case by the local authorities ; reformatories would still be needed,—although in diminished numbers,—for the reclamation of the vicious, and ragged schools for the destitute and out-cast. But it is not too much to hope that with such appliances zealously and faithfully used, prosperity and virtue will more abound, and ignorance, with her ignoble brood of poverty, and sloth, and crime, will “hide their diminished heads.” And surely it were peculiarly worthy of a great and free country thus to extend a helping hand to those who are ready to “perish for lack of knowledge.” We provide for the wants of their physical life ; let us minister with unstinted hand to the wants of their higher nature. We boast of our wealth and material greatness ; let us care much more for intellectual and moral worth. So shall we enhance the value of all our other possessions, and rise high in the scale of nations in the realization of all that truly constitutes a nation great. By our tender solicitude for the wisdom, the piety, and the virtue of our sons and daughters, we shall swell the tide of patriotism from age to age, by adding yet another to the many blessings Britain has bequeathed to her children.

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## MILITARY DRILL FOR SCHOOLS OF ALL KINDS.

### III.

#### 10. *Wheelings.*

**W**HEELING changes the front of a line of men to a position at right angles with its present one. It is precisely like the motion of the spoke of a wheel. There are two kinds of wheels,—the wheel at a halt, or on a “fixed pivot ;” and the wheel on the march, or on a “movable pivot.” If the wheel is to the right, the man on the right, or nearest to the *hub* of the wheel, is called the pivot ; if to the left, the left-hand man. In the first kind of wheel, the pivot is *at* the hub or center of the circle, and marks time in his place (in *squad-drill*), and slowly turns, regulating by the man on the opposite flank. This latter takes the full step and marches in the circumference of a circle, the radius of which is the front of the squad. The men between the two flanks take longer or shorter steps, as they are further from or nearer to the pivot.

The wheel may be broken in two ways : the men at the pivot, or between that and the marching flank, may step too long, and so get around before the latter ; and the men away from the pivot may describe too large circles, which will separate them from the pivot. The guide, therefore, is double, and the rule is, “Do not go *ahead* of the left guide (in a

right wheel), nor lose the touch of the elbows toward the right." In other words, the spoke must neither *bend* nor *stretch*.

In the second kind of wheel, the center is to the right or left of the pivot-man, who, instead of marking time and turning, takes a third of the usual step. Take away two or three men from the pivot flank of a wheel from a halt; and you have this sort of wheel. But the guide is *entirely* toward the outer flank.

The commands for the two wheels are, "*By squad, right wheel - - - MARCH,*" and, "*Right wheel - - - MARCH.*" When the squad has wheeled far enough, usually a quarter-circle, the order is, "*Squad - - - HALT,*" or, "*Forward - - - MARCH.*"

### 11. Double Quick.

We have learned to march in common and quick time; in double-quick time, the walk becomes a *trot*. To teach the principles of this step, the movement of the legs is first taught, standing still. The order is, "*Double-quick step - - - MARCH.*" At the first part the clenched hands are placed at the sides, above the hips, nails toward the body. At the word "*MARCH*" the left foot is lifted straight up, the knee being bent, and immediately replaced; the right foot executes the same, and this motion is continued, slowly at first, the instructor indicating the time, and gradually quickening till the movement is so rapid that the weight is *thrown* from one foot to the other in a sort of gentle trot. This, at the rate of one hundred and sixty-five steps per minute, is marking double-quick time.

To march off in double-quick time, the command is, "*Forward—double-quick - - - MARCH;*" the squad steps off at double-quick time with the left foot, taking a thirty-inch step. The hands are *always* raised at the word "*double-quick.*" To execute any maneuver in double-quick time, insert the word "*double-quick*" just before "*MARCH*," e. g.: "*By file right—double-quick - - - MARCH.*" To pass from quick to double-quick time, command simply, "*Double-quick - - - MARCH,*" the last word with the right foot. To pass again to quick, "*Quick-time - - - MARCH.*"

The double-quick movements are very showy, very useful at times, and very good exercise. The body must be kept erect, the shoulders back, and the mouth shut.

### 12. The Salute, etc.

The military salute is executed in three motions, which should be taught one at a time. The first motion is, to raise the right arm, bending it with a flourish till the two first fingers touch the side of the cap-front, palm to the front, elbow as high as the wrist: the second, to straighten out the arm horizontally, and briskly: the third, to drop it by the side. At the command, "*Squad - - - SALUTE,*" these three motions are executed in quick-time. At first the pupil should be made to count "*one, two, three,*" in time with the motions. When standing in line, the arm is carried back a little, so as to pass behind the next boy on the right.

In a school which is at all military in its character, the salute should be required on all proper occasions.

Besides the "REST" already given, we have "*In place* - - - - REST," and "*Parade* - - - - REST." The former allows the body to be moved, and does not forbid speaking, but requires one foot (it is best to say the left, for uniformity) to be kept *wholly*, both heel and toe, in its place. "*Parade rest*" is merely a more easy position than attention, but must be preserved with equal steadiness. The right foot is carried back six inches, the toe not being turned any further out, and the left hand is clasped over the right wrist. To come back to attention from any position of rest, the order is, "*Attention* - - - - SQUAD."

#### COMPANY DRILL.

The squads, having practiced the elementary drill, are formed into a regularly organized company. New officers are now to be appointed, and the old ones taught their places in the company. We must have a captain; and if we have twenty-four or more rank and file, a lieutenant. For a still larger company, one first and one second lieutenant. We must have a first and second sergeant, as right and left guides, and four corporals, to mark the division of platoons.

The company is always supposed either to be in line—that is, to have other companies on its right and left; or in column—that is, to have other companies before and behind, parallel with it.

In column, the guides are posted as in squad-drill; and the captain is two paces in front of the center and facing the same way as the company. The lieutenant is two paces from the rear of the company, near the left.

In line, the only difference is, that the captain is on the right of the company in the front rank; the first sergeant falls back into the rear rank.

The company is always formed in two ranks. The old rule for the distance between the ranks was "thirteen inches from breast to back," but the distance of a pace, adopted by Morris from the English drill, is preferable, because it does not require the lock-step. The tallest corporal is on the right; the two next in height together in the center, and the shortest on the left; all in the front rank. The tallest private is behind the tallest corporal; the second private in the front rank on the left of that corporal; the third behind the second, and so on alternately. If there is an odd man, he should be the third from the left.

The company falls in at first in one rank. The corporals place themselves as above, the two center ones as near as possible to the center, leaving one man between them. To form in two ranks, the first sergeant commands, "*In two ranks form company—company, right* - - - - FACE - - - - MARCH." At the word, "FACE," all face except the tallest corporal, who stands fast. At the command, "MARCH," all who have faced step off as usual; the tallest private steps into his place behind the corporal, the

next into the front rank, the third covers him, and so on alternately in front and rear. The sergeant then divides the company into two *platoons*, of equal front, if possible ; if the number of files is odd, the first platoon contains the even number. He then orders, "*In each rank, count twos.*" The two ranks count together. If the third file (whether complete, or a half-file) from the left counts "one," it is an odd file and has no number ; the numbers of the two left files are then changed, so that the last file is "number two."

Each two files, or four men, Nos. "one" and "two," in the front and rear ranks, are called a *group*. The group never separates. It is for this reason that the first platoon must have an even number of files.

Every command in the squad-drill can be used for the company by substituting the word "company" for "squad." It only remains to state the differences occasioned by two ranks and the additional officers. In *dressing*, if the company is in line, the captain superintends the alignment from his place in line, or a corresponding place on the left ; if in column, from a point two paces outside of the guide, upon whom the alignment is made, and facing toward that guide.

In facing to the right, the captain places himself on the *left* of the *right* guide, who always steps into the front rank before facing ; in facing to the left, the captain is on the *right* of the *left* guide. After facing the rear rank, side-steps to the right or left, *from* the front rank ; each rank then doubles, as if it were a squad. Thus, the company will be formed in a column of fours, touching elbows. Each group will be by itself, and there will be sufficient distance between the groups to avoid the lock-step. The fours will be formed as follows, *f* denoting front rank, and *r*, rear :

|               |                                                  |
|---------------|--------------------------------------------------|
| FACING RIGHT, | 1 <i>f</i> —2 <i>f</i> —1 <i>r</i> —2 <i>r</i> . |
| FACING LEFT,  | 1 <i>r</i> —2 <i>r</i> —1 <i>f</i> —2 <i>f</i> . |

We will recapitulate those commands of the squad-drill which present any difference.

"*By file right,*" or "*left.*" Each group of four makes a wheel of the second variety, successively.

"*Company* - - - - *HALT* - - - - *FRONT*" (when marching in fours, by the right or left flank). After undoubling, the rear rank closes up.

"*Company, by the right flank.*" Files double, as in facing at a halt.

"*On the right, by file, into line.*" The captain and first sergeant commence the formation, followed by the front-rank men ; the rear rank marks time at the word "*MARCH,*" and does not commence the formation till four of the front rank are in line.

In a wheel by company from a halt, the right guide stands motionless until the word *FRONT* (the wheel being to the right) ; the man next him does not mark time, but faces at once to the right. The captain halts the company a little before the quarter-circle is completed ; goes to the

point where the left will rest, and faces toward the man who has faced : the left guide steps up and touches the captain's breast with his left elbow ; the captain places him exactly in line with the man on the right who faces, and orders, "*Left - - - DRESS.*" A wheel to the left is precisely the converse.

To wheel by platoons, the order is, "*By platoon, right wheel - - - MARCH.*" The captain commands the first or right platoon, and the lieutenant the second. The right guide of the company is the guide of the first platoon ; the left guide of the company is the guide of the second platoon. The commander of each platoon dresses it to the left, the guide stepping out for that purpose, just as was explained for the captain in the last paragraph, the man on the right of each platoon facing to the right. After dressing, and ordering, "*FRONT,*" each chief of platoon takes post two paces before the center of his command.

The column thus formed has its guides on the left, and is called a column "*right in front.*" A column "*left in front,*" formed by the command, "*By platoon, left wheel - - - MARCH,*" has its guides to the right. The platoon commanders and platoon guides are the same. At the command, "*Guide right,*" given on the march, the guides change to that side.

To march the column, the instructor orders, "*Column forward, guide right [left] - - - MARCH.*" To change the direction of the march, what is executed by a column of fours at the command, "*By file right,*" or "*left,*" he orders, "*Head of column to the right.*" If the guides are not already on the left, he must first change them by the command, "*Guide left,*" because in a wheel of the second kind the guide must be outward. The commander of the leading platoon orders, "*Right wheel - - - MARCH,*" "*Forward - - - MARCH ;*" the commander of the other platoon gives the same orders on arriving at the same place.

The commands for halting and forming line are "*Column - - - HALT,*" "*Left into line wheel - - - MARCH.*" The guides stand fast, the men next them face to the left ; the chiefs of platoon halt their platoon ; the captain dresses the whole company by the right, the lieutenant returning to his place at once ; after the dressing, the instructor commands, "*Guides - - - POSTS,*" when the guides pass to their places.

A very showy movement is the one performed while on the march in fours by the command, "*Open order - - - MARCH.*" The men of each group separate to two paces interval, instead of marching elbow to elbow. At the order, "*Countermarch by file right - - - MARCH,*" each of the four single files, in which the company is formed, countermarches separately. "*Close order - - - MARCH,*" brings us back, closing in on the center. This is purely a show maneuver, not authorized by any system of tactics.

The above movements will generally be found sufficient, if practiced until perfect accuracy is attained. Others may be taught from the ordinary books on tactics, if greater variety is desired.

## GLYCERINE AND NITRO-GLYCERINE.

THE late destructive explosions of nitro-glycerine in this city and in San Francisco, and the still more recent and appalling explosion at Aspinwall, have brought this compound into sudden and painful notoriety. Until these terrible disasters, which have followed each other in such quick succession, nitro-glycerine was comparatively unknown, except to chemists; and many who are familiar with glycerine and its use, especially in the toilet, are asking what is its composition, and how can a substance so simple and harmless be converted into one at once so powerful and dangerous?

## GLYCERINE.

Glycerine is a nearly colorless, inodorous, intensely sweet, and very viscid liquid, nearly a third heavier than water. It is a compound of carbon, hydrogen, and oxygen, having the formula of  $(C_2H_5O)_3$ . It is soluble in all proportions in water and in alcohol, but nearly insoluble in ether. It can not be made to crystallize, and does not dry by exposure to the air. This latter property makes it exceedingly useful in medicine and the arts, and also for toilet purposes. It possesses remarkable antiseptic properties, and preserves animal tissues immersed in it in all their natural colors. It may be distilled without decomposition in a current of superheated steam, at a temperature between  $400^\circ$  and  $500^\circ$ ; but when exposed to dry heat, it is volatilized in part, while the remainder is decomposed, forming the pungent, tear-producing vapors called *acrolein*, so well known by those who live in the neighborhood of fat-boiling establishments.

When liquid oils are cooled to about  $32^\circ$ , or when solid fats are subjected to pressure between folds of bibulous paper, they are separated into two parts, one a liquid, and the other more or less concrete. The liquid is termed *olein*, and the solid, *stearine*, with which is associated a variable portion of *margarine*. Each of these is a compound of a distinct fatty acid, with the sweet principle *glycerine*, which constitutes about one-tenth part of all animal and vegetable oils. When fats and oils are decomposed by oxide of lead (litharge), the acids combine with the lead, forming the well-known *lead plaster*, and the glycerine is set free. It was in the manufacture of this article that glycerine was first discovered by Scheele, and for some time it was obtained entirely in this way. It is now produced in large quantity, and of perfect purity, in the manufacture of soap and candles. When fats are boiled with a strong solution of caustic potassa or soda, the alkali displaces the glycerine, and combines with the fatty acids, forming soap; the neutral fat, of whatever kind, being resolved into an alkaline salt of the fatty acids and into glycerine.

It is also obtained by the action of superheated steam on fat, a process lately introduced into the manufacture of candles. In this reaction, both the fatty acids and the glycerine assimilate the elements of water, and the excess of steam carries over a mechanical mixture of glycerine and fatty acids, which rapidly separates into two layers in the receiver.

#### NITRO-GLYCERINE.

When glycerine is added to equal parts of strong nitric and sulphuric acids, the heavy, oily-looking liquid *nitro-glycerine* is formed. It is sometimes called *glonoin*, and was shipped under this name on the ill-fated *European*. It is a substitution compound, in which two atoms of hydrogen of the glycerine are replaced by two of nitric acid. Its formula is therefore  $(C_3H_5(NO_3)_2O_2)$ . Nitric acid alone decomposes glycerine, oxalic and carbonic acids being among the products.

Nitro-glycerine is a pale, yellow, oily liquid of 1.6 specific gravity, and insoluble in water. It is powerfully explosive and poisonous; a single drop placed upon the tongue will cause a violent headache, lasting for several hours. It explodes by percussion, or when confined and heated to about  $360^\circ$ . It does not explode by the mere application of fire. It was discovered in 1847, by M. Sorbrero, a pupil of M. Pelouze, who thought it too dangerous for practical use. Nothing was done with it until it was applied to blasting by a Swedish engineer, Mr. Alfred Noble, who claims to have so improved upon the original method of manufacturing the article, as to make it no more dangerous than gunpowder. But in view of the recent mysterious explosions, it would seem that his statements must be taken with considerable allowance. He has obtained a patent on his manufacture, which is commonly known by the name of *Blasting Oil*. According to Mr. Noble, this oil is composed of one part of glycerine and *three* parts of nitric acid, and can be kept an indefinite time without decomposition. It explodes with great rapidity, and with a force estimated to be thirteen times stronger than that of gunpowder. Consequently, smaller holes and fewer charges are required, and the miner's work is very much lessened. The oil is simply poured into the drill-holes, covered with water, and the charge fired by a waterproof fuse with a well-charged percussion cap at the end. The explosion is so sudden that the water answers instead of tamping. It is sometimes poured through water into fissures, and fired in the same manner. It being insoluble, and heavier than water, it sinks to the bottom, and the water serves as a plug. It is, therefore, specially adapted to wet mining; and as the products of the combustion of blasting-oil are entirely gaseous, and not deleterious like those of gunpowder, it will doubtless supersede that article entirely for mining purposes, provided it can be made as safe to handle. For the present, however, too great care can not be taken in storing and transporting it.



## JULIAN GURDON : SCHOOLMASTER.

## CHAPTER X.

## HAMERTON.—THE EXPEDITION.

MY first year at Hamerton Academy greatly tried my spirits, and tasked my powers. I had an exigent and fastidious public to satisfy. I had subordinate teachers, older and more experienced than myself, to conciliate and to harmonize among themselves; and I had pupils who had built much hope of lax rule and permitted deficiencies upon my quiet manners and apparent youth. But I was determined on success, and I gained it. At the close of the second term I was satisfied—every purpose I had sought was amply achieved.

In giving instruction, I had myself advanced in knowledge. My duties had not been arduous, and I had progressed in my favorite pursuits. Already I was quoted as an authority in natural science. My name was favorably known, even among European *savans*, and I was continually besought to contribute to the best periodicals upon my favorite topics. Hamerton was proud of me; Elmtown boasted that I had been nurtured at her bosom; and I by no means despised the more substantial rewards of my labors.

The long vacation which occurred at the close of my school year, I spent as I had the previous one, partly in a pedestrian tour, and partly in conference with persons interested, like myself, in scientific pursuits. Every step now was a step forward. I did not regret my return to my quiet avocation, because it left me ample time for the studies and experiments in which I was fast becoming an enthusiast; and I enjoyed it the more that I was initiating some of my pupils into these studies, and that their ardor was to me a delightful stimulus.

The day came for the reopening of the school, and brought with it an unexpected pleasure—one of the keenest I ever experienced. All my pupils were gathered in the large hall appropriated to lectures and religious exercises. All rose as I entered, in greeting, and I bowed and glanced round to include all. To my surprise, my eye fell upon a familiar face—one I had scarcely expected to see again—that of Mary Lee.

She blushed and smiled as her eyes met mine. It was evident that our meeting was a mutual pleasure. The moment I was at liberty, I approached my dear pupil, and joyfully took her hand in mine. She was no longer a child; there was a slight reticence in her manner, but her gaze met mine with the old frankness and fearlessness. Pretty as a child, she had become a beautiful maiden. I had loved her before; I was charmed with her now. I learned that her father was absent in Europe; and that

her mother, accompanied by Miss Parkson, had taken up her residence in Hamerton, for the benefit of the sea air. So I was once more to have this delightful family as neighbors and friends. It was not long before I found myself on the old terms of intimacy, and was very frequently enjoying the conversation of Mrs. Lee, the delightful music of Miss Parkson, and the presence, and pretty timid dependence of my sweet pupil.

I have left my youth far behind, my hair is gray, and my frame less strong than of old. I have had sorrowful days, and happy ones; but none, I often think, as I look back upon the path I have traveled, so quietly happy as these.

Five years I continued at Hamerton. I led a quiet, studious life. I was too conscientious to neglect my charge; but the actual tasks of instruction I left mostly to my subordinates, while with ardor I pursued my scientific researches. From far and near came pupils whose tastes, or the probable occupations of their future lives, rendered them desirous of special instruction in those branches. I laid the foundation of a scientific department at Hamerton, which, richly endowed by some of the wealthy inhabitants of the town, has since rendered the institution famous.

At the end of this period, a scientific expedition was organized, by the friends and trustees of Elmtown College, to explore some hitherto almost unknown regions on the southern continent; and, greatly to my surprise, I received a request to become its director. A new field of research, a rich one, was thus opened to me. I loved my quiet, studious life, and felt the strongest disinclination to leave it. But the temptation was too strong to be resisted. Upon very few men of my years had such an honor been conferred; and few, indeed, in the outset of their career, have been blessed with such an opportunity of acquirement as that which was now pressed upon me.

It involved an absence from my native country of not less than three years. I must leave my mother and sister. But, except that death might part us ere then, there was no pang in this. They were now living in a pleasant home at Hamerton, which my mother's little income, with the additions I was now amply able to contribute, made comfortable, and even luxurious. A serene old age, without care, lay before my mother; and Emma would be the wife of Robert Lawrence long before I should return. Already this quondam pupil of mine inhabited by day a certain little white office on the principal street of Elmtown, whose door-post informed the passer-by that he was an "Attorney and Counselor at Law." A little more success, a little firmer establishment, and he would make Emma mistress of a handsome city home, while already there were delightful anticipations, in the comfortable homestead which had risen beside the old Pilgrim mansion, of the future summers this adopted daughter of the house was to pass there.

I had then to my native land no binding ties—stay, there was one;

and I thought of it with a fearful mental wrench, as if body and soul were parting. There was a fair young face, which I had studied day by day, all these years, till I knew every passing expression, every soft spiral of the golden curls, every thought mirrored upon the unsullied brow. I loved Mary Lee.

Both she and her mother begged me to accept the honor conferred upon me ; and Miss Parkson added her advice to the same effect, in the strong, curt words she always used. I drew Mary aside, and tremblingly told her that the decision was in her hands. My life belonged to her, and no part of it would I dispose of without her consent freely and fully given. A steady old professor, of whom men say he has only a fossil for a heart, and deals with nothing softer than "strata" and "deposits," it cannot be expected that I should now recite lover's language. I may have been softer then—at any rate, Mary accepted me as I was ; but still, with a loving woman's unselfishness, urged me to go.

"I will wait for you till you return," she said : "if you never return, I will wait for you till we meet on the further shore !"

Vainly I besought her to allow the marriage to be solemnized before we parted. Her father was still absent, and would not return for another year. There was no time to gain his consent, and the dutiful daughter would not marry without it.

It was a sad, anxious time, one of hurried preparation and much occupation. But I was forced to yield. In a little time all was ready. The farewells were said, all my dear ones were left behind, and with our ships well freighted with every necessary for our expedition, we set sail from New York.

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## CHAPTER XI.

### CONCLUSION.

THE history of that expedition has been already written. Even the merest sketch of it would occupy more space than this story can command. It is sufficient to say that we had great and varied experiences, and many hardships. In some of our objects we partially, and in others utterly failed. But, on the whole, the expedition is now regarded as having afforded valuable additions to scientific knowledge, while to me it brought fame in abundance, as well as more substantial wealth.

I was absent nearly four years. When I returned I was but little past thirty ; but I found myself crowned by such honors and rewards as few men achieve in a lifetime. I say this with no vanity, but merely to illustrate the power of a determined will, unconquerable energy, and steady

purpose. From the first I had never faltered, and here was my reward. Immediately upon my return, I was invited to a professorship in one of the oldest and most celebrated of our colleges, and accepted the appointment. My first visit was of course to Hamerton. I found my mother well, and little changed. My sister, now a blooming young matron, was on a visit to the Lawrences, but hastened home at once to greet me, accompanied by her husband, who was not only rising in his profession, but was already assuming the burdens and the honors of political life.

I was rejoiced to meet these dear ones, and to be assured that Providence had held them in the kindest care. But I was conscious of an attraction which drew me from them to one whom I loved with another and stronger affection. Our greetings were scarcely over, before I hurried with impatience to Mr. Lee's. A year had elapsed since a letter from Mary had reached me. I had learned from my mother of Mrs. Lee's death some months previously, and of Mr. Lee's return.

My inquiry had been for Miss Lee ; and I was surprised when, after waiting longer than my impatience could bear, the door opened, and Mr. Lee entered. He was much changed outwardly, gray, bowed, haggard ; but all the polished graces of his manner remained. He bowed with all his old courtesy, and expressed himself pleased to know of my safe return, and to meet me ; but as of old, did not extend to me the hand I had never yet clasped. He seated himself, and a somewhat constrained conversation ensued. I read plainer than before his long concealed dislike for me. I had never been so anxious to unvail the mystery that surrounded us. . . .

At length I inquired for Mary.

"Miss Lee is much engaged," was the reply ; "she will be unable to see you to-day."

I could not but express my surprise and disappointment.

I mentioned our engagement, and inquired if Mr. Lee were not disposed to sanction it. The reply stunned me.

"I do not consent," he said, coldly. "I shall not even consent to your meeting. Hearing of your approaching return, I have waited only to surprise you of this with my own lips. No,"—interrupting me—"no, there is no objection to you. Miss Lee could hardly aspire to so celebrated a man. But there is an insuperable objection,—one which you may not know, and which can never be overcome. You must submit—both of you ; and now that I have told you this, I shall at once remove my child from your reach. Do not attempt to see her. Let us pass forever from your memory!"

He rose, as he pronounced these words, bowed coldly, and left the room, leaving me no time for remonstrance.

An hour afterward, a note from Mary was handed me. It contained a farewell. She was convinced of the insuperable nature of the obstacle to

our marriage, and bade me yield to it. The next morning I sent a reply, urging my claims with all the eloquence of which I was master, and asserting that I would never give her up. Only her own act should separate us. An hour later my letter was returned to me. During the night the Lees had disappeared, and their house was empty. No inquiries could trace them, though months were devoted to the search. . . .

I took up the burden of my daily duties once more ; but my heart was not in them. Hope and elasticity had fled. Henceforth, life was but a monotonous plodding along a hard and rugged path. And yet men said I performed the duties of my position well. Thus, after hope seems dead, the instinct of work remains in mechanical operation, and ambition almost unconsciously prompts to exertion.

Ten weary years I passed thus. Lonely years, and saddened by still another grief. I had laid my gentle mother to her last rest. Emma, in a distant city, was absorbed in her own home, its cares and its joys. And yet, withal, these years were not entirely unhappy. The heart becomes accustomed to sorrow, and congenial pursuits absorb the mind, and even afford some food for the affections.

One day I received a letter in a hand I knew. It contained but these words :

"Come! my father is dying, and he bids me say, come! Inquire for Herbert Morrison."

A new light burst upon me as I read. Was this the man who had so wrought my destiny, whose act had given me energy, activity, work? Who, unknown to me, had been the directing power, the *Deus ex machina* of my varying fate?

Nothing could surprise me now. The name had unraveled the secret, disclosed the mystery; and when I stood by the bedside of the dying man, with the faithful hand in mine that henceforth was to lead me in the ways of peace all my life, there remained nothing to tell.

There were losses he could not repay; but I had my compensations! . .

It was a happy day when Mary became mine. We were no longer young, but our hearts were fresh and true. Old friends gathered round us;—Mr. James and Mr. Smithson, proud of the fulfilment of their early prophecies; the good old deacon in his ripe age; Robert, Emma, and their children; happy Miss Parkson; some dear pupils. The dear mother was gone; there were shadows on our joy—but all human events are shadowed—and we were happy.

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DURING four years, 6,000 public libraries have been founded and annexed to the French common schools, and the demand for books is said to double annually—a most hopeful sign.

## "NOT AT HOME."

*Emma.* Bridget, if the bell rings this afternoon, do you say I'm not at home.

*Bridget.* Yes, ma'am.

*E.* Stop, Bridget. If Miss Briggs calls, you may let her in. You know Miss Briggs, don't you?

*B.* And sure it's myself that knows the same, bless her swate face.

*E.* Now don't you make a mistake, Bridget.

*B.* A mistake, is it? Never fear that. [Exit.

*E.* I saw that odious Miss Perry going down street, and I shouldn't wonder if she should call.

*Jane.* It would be just like her, to call when she isn't wanted.

[Door-bell rings. *Exeunt* EMMA and JANE.]

[Enter BRIDGET. Opens the door. Enter HELEN.]

*Helen.* Are the young ladies in?

*B.* It is not in they are.

*H.* Why, Bridget, you must be mistaken. I saw Miss Emma as I came up the steps.

*B.* Mistaken, ma'am! If anybody is mistaken, it's Miss Emma herself; and sure she ought to know.

*H.* How is she mistaken?

*B.* She told me herself that she wasn't at home, and that I was to say so to all but Miss Briggs.

*E.* [Calling.] Bridget, come here!

[Enter EMMA.]

*B.* I told you she said so.

[Exit.

*E.* Why, my dear Helen, how glad I am to see you! It is an age since you were here.

*H.* [Coldly.] I am not Miss Briggs.

*E.* What do you mean?

*H.* You didn't expect to see me, did you?

*E.* I have expected you all the week; and I am so glad to see you!

*H.* Then, why did you tell your servant to say you were not at home, except to Miss Briggs?

*E.* I—I—Did Bridget make such a blunder as that? Why, I shall have to discharge her. What did she say?

*H.* Just what I have told you. I thought I'd go—

*E.* How stupid! Why, I said—I told her—I never saw so stupid a thing. I told her if I wasn't at home when you and Miss Briggs called, to ask you to stay till I came back.

*H.* Oh, that was it! These girls are so stupid!

*E.* I have so longed to see you! Did you go to Fanny Newman's party, last week?

*H.* No; I don't visit her. They say there wasn't ice-cream enough for the company, and the oranges were cut in halves to make them hold out.

*E.* Wasn't that stingy? But it's just like them. Who told you about it?

*H.* Mary Day. She wasn't there, however. She had no invitation. Had you?

*E.* No; I don't associate with them.

*H.* Nor I. But I must go. I'm in a hurry. Good-by.

*E.* Come again soon. Good-by. [*Exit HELEN.*] Bridget, I want you.

[*Enter BRIDGET.*]

*E.* What made you tell Miss Pierson that I wasn't at home to any one but Miss Briggs?

*B.* And sure, ma'am, didn't ye tell me to do that same?

*E.* I told you to say I wasn't at home. But you mustn't tell visitors I said so. Just say I'm not at home.

*B.* But the leddy see yees through the window, and what could I do? Troth, you wouldn't have me tell her the eyes of her was poor.

*E.* You should have said, perhaps you were mistaken; or, perhaps I had come home, and you would see. Go now, Bridget, and remember.

[*Exit BRIDGET. Door-bell rings. Re-enter BRIDGET.*]

*B.* It's my father's daughter that will be right this time. That's Miss Briggs, sure.

[*Opens the door. Enter MISS PERRY.*]

*Miss Perry.* Is Miss Emma in?

*B.* Yes, ma'am—to yees, ma'am.

*Miss P.* To me! What does that mean?

*B.* It's meself that can't tell, for she was very angry because I tould a leddy she said she wasn't in; and she made me promise I'd never tell anybody else that she said it. So you will excuse me. It's not for the likes of me to disobey my mistress. Sit down, miss, and I'll call Miss Emma.

[*Re-enter EMMA.*]

*E.* Why, my dear Miss Perry! I'm so glad to see you! Why haven't you called before?

*Miss P.* To tell the truth, I thought you did not care for my calling.

*E.* I am sorry you thought so. I deem you one of my best friends. Cousin Jane and I were speaking of you only a little while ago. She will be glad to see you.

*Miss P.* It gives me pleasure to hear you say so; and if I have been wrong in my opinion of you, I beg your pardon.

[*Enter JANE.*]

*Miss P.* I'm glad to see you, Miss Jane. You have come just in time.

Your cousin and I have been clearing up a little misunderstanding, and I hope we shall have your approval.

*Jane.* [Rather puzzled.] I think I can agree with any thing Emma says. I was not aware of any difficulty, however.

*E.* Miss Perry has been laboring under the mistaken idea that we were not friendly to her.

*J.* I am really sorry.

*Miss P.* Let it all pass, then. I am glad we understand each other. I did not like to speak to you of it, but the kind message you sent me by your servant made me think I had wronged you in thought.

*E.* I wonder if the stupid girl has once carried a message correctly. What did she say?

*Miss P.* I passed your house a short time ago, and I suppose you saw me, and thought I might call on my return; for when I asked if you were in, she said, with a smile, that you were to me. I hardly expected this preference.

*E.* I was not in a mood for general society, and wanted to see only those with whom I am in sympathy.

*Miss P.* I am sorry I cannot stay longer, but I am out on business this afternoon. Will you and your cousin give your aid in getting up a Fair for the Orphan Asylum?

*E.* Very gladly. I will, at least.

*J.* And I, too, Miss Perry. I thank you for this call.

*Miss P.* Please return it, my friends. I'll tell you more of the Fair another time. [Exit.

*J.* I am ashamed of myself. That young lady has taught me a lesson. Before she came we called her odious. When she was here, what hypocrites we were! Then, how frank and charitable she was!

*E.* I'll call Bridget and see if she has made another blunder. Bridget!

[Re-enter BRIDGET.]

*E.* What did you tell Miss Perry?

*B.* It's no Miss Perry I've seen at all.

*E.* That was Miss Perry who just went away.

*B.* I thought it was Miss Briggs, and I said ye was in to her, and I couldn't tell her any more, because ye was angry if I told ye said yees wasn't in to other leddies.

*E.* You may go, Bridget.

*B.* Troth, miss, ye are angry wid me. And will ye plase to say yourself ye're not in? [Exit.

*J.* The very servant shames me. Never again will I be a party to such deception.

*E.* Nor I neither.

[Exeunt.]



## AMERICAN EDUCATIONAL MONTHLY.

JUNE, 1866.

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## THE TEACHER AS A CITIZEN.

**E**VERY right has its corresponding duties. The right of citizenship is no exception, and he who enjoys it should accept the duties which it imposes. Every citizen is protected by his country's laws. His natural and inalienable rights are guaranteed to him by his government, and he owes duties in return which he has no right to ignore. Especially do these duties devolve upon the intelligent, the educated, the influential.

When we consider the position, influence, and worth of teachers as a class, we feel that in their public duties as citizens they have been most deficient. There is a power legitimately connected with their office, which they have too often neglected to exercise. Their study and discipline ought to fit them to become earnest, active, and influential citizens; but they have been content to be teachers, and nothing more. Shut up with children in their school-rooms during the day, and in their own rooms with their books in the evening, they lose sympathy with the busy world about them, and fail to become practical and useful as citizens. They pore over books until they lose all relish for active duties, and when they come out from their retreats, and mingle with men, they feel out of place. They may be familiar with science, and language, and mathematics, and yet know nothing of the questions and interests of the day, be ciphers in a town-meeting, and have little influence in society.

They would find healthful recreation, and be invigorated mentally and morally by mingling more with society, and taking a living interest in the moral and social condition of their city or town. How many faces, "sicklied o'er with the pale cast of thought," how many bodies dyspeptic, and minds unstrung by confinement and study, would wear the bloom of health, and be restored to vigor, if engaged also in these active and useful duties!

The first question with the teacher, as with every one, should be, How can I be most useful? His aim should be to become a complete, harmonious, full-developed soul; to make the most of himself, that he may be able to do the most for others. The man who attends to one thing

only, be it business, teaching, preaching, or any thing else, becomes narrow, one-sided, and leaves a great part of his nature undeveloped. And the mere book-worm is the most useless of men.

There is no class in our community more intelligent, able, and influential than the teachers of our schools. Yet, with all their ability and intelligence, they exert a very trifling direct influence as citizens. They ought not to stand back, and remain neutral in the moral and political world, leaving right to fight its own battles, and truth to win its own victories. It is incumbent on every one possessing influence to use it well; and the teacher who disclaims his duties as a citizen is false to his profession, to society, and to the State.

The teacher who is true to his calling, will be interested not only in the mental, but the moral culture of his pupils. He will be desirous that all evil be removed from the society in which they are to move, that temperance should prevail, that profanity should cease to be heard, that libraries, lyceums, and Sunday-schools should flourish, and that a high moral tone should pervade conversation and conduct. His voice will be heard in the public assembly, giving "no uncertain sound" in the cause of humanity and reform. And as example is more potent than speech, as it is better to do than to say, he will not only speak, but act against evil, and be found always in the advance guard of truth and progress.

Although a republican people, we have a tyrant over us who rules us with a rod of iron. That tyrant is public opinion. We need, more than any thing else, men who will change this public opinion, and give it a tone more moral and Christian. This duty falls especially on teachers. Their office gives them an influence exceeded by none. If they fail to use that influence for the improvement of society, they neglect one of their highest duties. The teacher, more than any other, except the parent, helps to form the public opinion of the nation. If this is ever Christian in its tone, the influence of the teacher must be in the right direction. The public sentiment of the community is formed in childhood, at the mother's knee, and at the public school. In childhood, the teacher may mould it as he will. If he does not mould it as it should be then, the world will mould it, politics and corrupt politicians will mould it, and not in the matrix of purity and holiness. The public morals are intrusted to the teacher, and by him they must be preserved. He should feel the duty that is upon him, and take a more active interest in the well-being of society, and thus become more efficient as a public citizen.

## EDITORIAL CORRESPONDENCE.

## THE GERMAN METHOD OF TEACHING GEOGRAPHY—CONTINUED.

BERLIN, April, 1866.

THUS far there has been no introduction of political geography. This is the next step, and it comes in perfectly naturally. The sea-shore, rivers, and plains are the conditions on which the existence of towns and cities depend; the presence of mines, mineral springs, supplies of commercial stores, all these are the great directing agents to the course of population. Thus man is shown to be in direct connection with the soil on which he lives, and political geography to grow out of physical. And when these things are fairly learned, then the pupil is ready for a new step in political geography; and that is, to learn to how great an extent States are dependent upon the ocean and the land, and how far history has always been, and still is, and always will be modified by geography. This is a new and most interesting department of the science of which I am speaking. It is the one in which Ritter has won his proudest fame. Leaving to Humboldt and to Dove to study the connection of geography with the other natural sciences, Ritter turned his attention almost exclusively to the mutual play of geography and history. He has written nothing concise, nothing compact, which the student can buy, read, and master; it is in his great twenty-volume work on Asia that his system is hid away, as it were, from the common sight; and the volume of his studies, published by Gould & Lincoln, two or three years ago, rather outline it and hint at it, than disclose it fully. But it was learned from him by all his pupils, and it is insensibly communicated to all the careful students of his great work. The great English exposition of it is in a work largely read and admired, and one whose connection with the philosophy of Ritter has been too little known and acknowledged; I mean Stanley's "Sinai and Palestine." To this volume, I ought to add the "Lectures on the Jewish Church," the real sequel to it. Whoever masters these most interesting and delightful works, and compares them with all that has been written heretofore, will acknowledge that in the manner in which they show the connection of geography and history, they have no superior in the English language; and in grace, elegance, compactness, they surpass Ritter in his own field. The pupil has gone beyond the master; but the work shows the forming hand of the master, nevertheless; and it does not need the constant references to the *Erdkunde*, to show that Stanley has been a thorough student of its pages.

The last of all to be studied in the geographical course is the mathematical portion. This is far more general and wide than has been supposed; and when it is adhered to, much which perplexes the mind of the child is left to be understood in his riper years. All that relates to the form of the earth, its belts, circles, and complex astronomical laws is comprehended in the last division. And with this the course terminates, every new step necessarily reviewing what has gone before, and making it more complete; building up the science on a permanent and well-considered foundation, as philosophical as it is natural, and philosophical because it is so natural.

It may not be premature to announce that a series of works which shall follow this order is in preparation for our American schools. No textbook exists in Germany; it is an unwritten system, and one which requires some modification, but I have no doubt that it will be found thoroughly adapted to the wants of our American schools.

There are some points which are to be criticized in this country, nevertheless. That same evil which is so largely experienced in America, of crowding the mind with geographical details, is known here. No evil is more prevalent in this department on both sides of the Atlantic. The greatest geographer of this country is singularly unacquainted with these details; his memory is not at all tenacious of them, but his mind grasps the great physical relations with wonderful power; and no one can hear him lecture, without being assured that he is worthy of his theme. It is perhaps the greatest mistake that we commit at home—this swamping the memory of the scholar beneath a flood of geographical names, irrespective of their practical value. He is compelled to learn the appellations of all the tributaries of the Amazon, just as carefully as he would those of the great commercial centres of Europe; he must study the Siberian lakes as closely as he would those of the United States. The same mistake is noticeable in Germany—the want, if I may so term it, of perspective in geographical study.

It is particularly apparent where our country is concerned. Owing partly to the disdain with which the educated Germans regard our “new” country, forgetting that its civilization is coeval with England’s, and owing also to the wish of the government to check emigration by keeping the people as much in the dark as possible about us, the geography of the United States is little known here. In the Atlases, we find our place hard by Oceanica and Africa, at the very end of the book; and even our great cities hardly have a recognition. And even if we are supposed to have an immense extent of territory, it is thought to be so unsettled, so wild, so overrun with beasts and savages, as to be of little worth. Not that enlightenment is not coming in with regard to these things: the countless letters sent from the United States to Germany do measureless good; but as yet, the geography of our great country is little understood.

W. L. G.

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A REPLY TO “OBSERVER.”

MR. EDITOR—Your critic is sorry to learn that he has been the innocent cause of so much suffering to your correspondent, Observer. He should have relieved himself sooner. He should not, in silence, have suffered mental anguish through all the dreary months from December to May. But authors ought not to be *too sensitive*. To criticise is not to meddle, as Observer seems to think it is. Books are written for the public, and the public good requires honest criticism. Mr. Kerl has had this at our hands. If he is hurt through “ignorance,” it is his own fault, not ours; and if he “can (to)” forgive himself for the injury thus unwittingly done to himself, we shall be among the first to commend his amiable disposition.

Observer complains that the "contemptuous synopsis, which the critic has given of Kerl's 'First Lessons in English Grammar,' is neither full nor fair." The critic challenges an examination. A comparison of the synopsis with the book will show that it is unusually full and perfectly fair.

What the critic said in regard to the number of definitions (one hundred and thirty-nine), and of the space they occupy, is strictly true; and Observer is guilty of "sharp practice" when he charges the critic with unfairness, and at the same time reduces one hundred and thirty-nine definitions to "only about a hundred," and stretches what is on thirty-five pages to cover "fifty-five." But more than this, he deliberately misquotes. He says, "the critic himself admits that the definitions are generally faultless, and the illustrations apt."

What the critic did say, is this: "While many of the definitions are faultless," etc. Perhaps the critic is "rash" in saying "deliberately misquotes," because that can only be said on the assumption that Observer appreciates the difference between the words "many" and "generally;" a matter not so clear, perhaps, as to warrant a charge of intentional dishonesty. "The definitions which Mr. Kerl has given of personal pronouns and relative pronouns are both improvements on the old definitions." That is, Kerl's definitions are improvements on all that precede *him*. The statement means just that, or it is good for nothing. Let comparison decide.

"A personal pronoun is so called, because it invariably represents the same person." (R. C. Smith, 1832.)

"A personal pronoun is a pronoun that shows by its form of what person it is." (Goold Brown, 1836.)

"A personal pronoun is a simple substitute, which, by its own peculiar form, shows of what person it is." (E. Hazen, 1853.)

"A personal pronoun is one of those pronouns which distinguish the grammatical persons." (S. Kerl, 1865.)

So much for improved definition of personal pronouns.

"A relative pronoun represents a word or phrase, and connects with it the limiting clause in which it stands." (D. B. Tower, 1846.)

"A relative pronoun is a pronoun that stands in close relation to an antecedent, and joins to it a descriptive clause." (S. Kerl, 1865.)

One of these tells, in a certain sense, *what* a relative is, and the other, *where* a relative is. Which is the improvement?

"In the classification of verbs, there is an inherent difficulty." Observer should have said, in Kerl's classification of verbs there is an inherent difficulty.

"If *predicate* and *affirm* mean precisely the same thing, as the critic affirms," etc. The critic made no such affirmation. He did not use the word "precisely" at all. In speaking of the author's "finite and not finite verbs," he said: "Then what is *help*, in the entreaty, 'Hercules, help me!' Is it a finite or not finite verb? Does it predicate any thing of its subject? Certainly not, because predicate means to affirm, and nothing is affirmed." Well, here is Mr. Kerl's definition of predicate: "A predicate is a word or phrase denoting what is said of a subject." Now let us try it. "Hercules, help me!" What is said of the subject? Nothing. This rules the imperative out as a finite verb, just as effectually as the other

"Whatever, whoever, and whichsoever are compound words," etc. That is all true. But as Mr. K. was not treating of the *form* of words, but was defining the "classes of pronouns," the critic naturally supposed that he meant double relatives; and, knowing that many grammarians consider all such relations compound, proposed to be generous, and not cavil on that point, and simply raised the question, what is a compound relative? because no proper definition of a *relative* had been given. With regard to the disposition of the word *what*, the critic had years ago "learned from Brown,"—"What is a kind of double relative, equivalent to *that* or *those which*," and also, "No pronoun can properly be called compound, merely because it has a double construction, and is equivalent to two other words." The critic humbly acknowledges his probable mistake in assuming that Mr. Kerl had not read Brown with any profit to himself.

"If he does not know that participles are used after the auxiliaries *be* and *have*, and infinitives after all other auxiliaries," etc. About the use of *be* and *have*, there has been no dispute. As to "infinitives after all other auxiliaries," he is happy not to know. He does, however, know that two or three grammarians of the last century did teach, "The preposition *to* is never expressed after the helping verbs, except after *ought*." (Alexander Murray, 3d ed., London, 1793, p. 112.) As *ought* is not an auxiliary verb, but is found in the old lists of auxiliaries, it is easy to conjecture the origin of the idea that *to* is suppressed after all the others. A few grammarians since Murray's day have adopted the doctrine, but only a few; and even these have had no faith in its correctness. Otherwise they would have exhibited the infinitive as one of the principal parts of the verb. Even Kerl himself, who so strenuously insists on this doctrine, teaches that the four principal parts of the verb—that is, the parts from which all the other parts are formed—are :

"PRINCIPAL PARTS."

| <i>Present.</i> | <i>Past.</i> | <i>Present Participle.</i> | <i>Perfect Participle.</i> |
|-----------------|--------------|----------------------------|----------------------------|
| "Be or am,      | was,         | being,                     | been."                     |

(Kerl's First Lessons, p. 75.)

And yet he writes, "infinitives after all other auxiliaries," without any seeming consciousness of its absurdity and inconsistency.

"The remaining criticism on this sentence shows how grossly and ridiculously ignorant of grammar the critic himself is; for the sentence is grammatically correct, and his officious mending of it *would make false syntax of it*." If Observer will look again, he will perceive that the critic did not mean to *mend* by making correct syntax, but only to state what he supposed to be the intention of the author. "The Old and the New Testaments make the Bible," the critic considers, though not strictly correct, grammatically less absurd than, "The Old and the New Testament make the Bible." Had the critic intended to "correct" it, he would not have committed the blunder of leaving a noun, to which no allusion had been made, to be understood after the first of two (such) adjectives separated by other words. He would write, "The Old Testament and the New make." "The nominative case," etc.

"No man also, having drunk old wine, straightway desireth new; for he saith, The old is better." (Luke, v. 39.)

"The critic's remark about *was captured* is unfair; for he garbled the passage," etc. The passage garbled is on page 35 of the book (definition 139), and reads: "An auxiliary verb helps other verbs to express their grammatical properties. Hence, there are auxiliary verbs that express voice; as, *was captured*." On this "garbled" passage, the critic remarked that hence, *was writing* must be a verb in the passive voice,—and he still holds that opinion.

"The critic's remark that nothing plainer is given on punctuation is not true."

The critic offers a full example as his vindication.

" ; The semicolon ; which denotes the next shorter pause.

"The semicolon is used—

"1. To separate parts that have the comma, or that require a point greater than a comma, and less than a colon.

"2. To separate the parts of a loose series."

If this blind statement of the manner of *using* the semicolon makes the *definition* any *plainer*, the critic is ready to make "a manly apology."

Near the close of his communication, Observer says something, in a pleasant, good-natured way, about how to "conduct warfare." If he proposes to go into that business, for which, on account of his extreme good-nature, he is not well adapted, let him get a good Damascus blade, and not go into the fight with a short bowie-knife made by some common blacksmith. The former will always exhibit a better temper, and serve him a better turn than the latter.

Critic.

"UP THE HUDSON," MAY 2, 1866.

## CURRENT PUBLICATIONS.

PROFESSOR AGASSIZ'S "Geological Sketches" originally appeared in the *Atlantic Monthly*, and are therefore popular rather than technical. The rambling and discursive style in which they are written, affords opportunity for explanation of some of the author's peculiar views. He thinks zoologists err in regarding the pterodactyl as a flying reptile; for, as he maintains, its wings resemble the paddles of a sea-turtle more than the wings of a bird; it has not the powerful breast-bone, with large projecting keel along the median line, peculiar to flying animals; and its teeth are too powerful for merely catching dragon-flies, the largest aerial prey of the period. Prof. Clark, discussing this question in his late work, "Mind in Nature," shows that the bat has a low median keel: it certainly is a flying animal. Dana states

that the bones of the pterodactyl are low, like those of birds; so that it is possible that our author himself is in error, and that this was a flying reptile feeding upon aquatic animals. Prof. Agassiz denies the existence of birds in the Mesozoic age. He refers all the footprints to reptiles, or possibly marsupials, and looks upon the archæopteryx of Solenhofen as a synthetic type in which bird-like features are combined with reptilian structure. He also maintains that America is the oldest continent, in opposition to Murchison, who, judging from recent researches, claims priority for Africa. In the closing chapters, upon glaciers, the author defends his theory against the recently published views of Tyndall & Forbes. Prof. Agassiz takes advantage of every opportunity to assail the development theory, and, in a quiet way, presents some strong arguments against it.

The work is exceedingly interesting.

(1) GEOLOGICAL SKETCHES. By L. AGASSIZ. Boston. Ticknor & Fields. 12mo, pp. 311. \$2.25.

We have read few with more pleasure. It gives a cursory view of the whole geological system, from the Azoic to the Post-tertiary. The style is simple, and well adapted to the wants of the general reader. The book is well illustrated and contains a portrait of the author.

References to characters of fiction and to the pseudonyms of authors are so numerous in every periodical, that men of limited reading are continually at a loss. Mr. Wheeler's dictionary<sup>2</sup> will prove advantageous to this class, as it not merely refers to the works in which the names occur, but also gives synopses of the narratives. It contains an introductory treatise, of thirty-two pages, upon orthoepy, together with an index giving real names of authors with the pseudonyms which they have adopted. This would be a useful book of reference for teachers, enabling them to answer many of the troublesome questions advanced by pupils. Its value has been acknowledged in England, and Mr. Bohn has republished it in his standard library.

The real defect in teaching grammar is, not that it fails to make good *theoretical* grammarians, but that it fails to make good *practical* grammarians. Pupils learn soon enough to take sentences to pieces, but they do not learn to give thought graceful and proper expression in words. Nor will the mass of them ever learn to do this by merely looking at sentences presented for their examination and dissection. They must be put to the practical work of using words in expressing their thoughts, both orally and in writing. And here the work<sup>3</sup> under consideration is sadly deficient: for, though denominated a "Practical Grammar," all the practice which it requires in this direction, could be put upon a very few pages.

Grammar is an art as well as a science; and the art of grammar should precede, or at least, keep pace with the science of grammar.

What would we think of the mechanic who should attempt to teach an apprentice the mysteries of his trade by keeping him

engaged, during the major part of his apprenticeship, in taking to pieces various machines constructed by master-workmen, and putting them in boxes? Nay, more; who should have boxes made for the different machines, with apartments so constructed that each would hold only a particular piece, and then require him to select from those before him the machine which would exactly fill all the apartments of a given box, take it apart, and place each piece in its appropriate apartment—and all this with the avowed purpose of teaching him how to construct such machines? Would we expect a good practical machinist to be made by such a process?

What then should we think of the grammarian, who, at the outset, presents the best specimens of his art, and constructs diagrams—like chests of drawers—and then requires "the pupil to name" (that is, select) "the sentence below adapted to this diagram and place it in an exact copy"—and who continues this process to the end, making it the measure of his pupil's skill; and all this, to make of him a *practical* grammarian?

"But," says our author, "it is not claimed for the diagrams that they constitute any essential part of the science of language." Certainly, that is not claimed; but they *are* an essential part of Clark's Grammar, the title page of which is headed, "THE SCIENCE OF THE ENGLISH LANGUAGE."

Again, the "memory is relieved" by the use of these diagrams. This is a better reason why they *should not be used*, than it is for using them. The pupil should rather be taught to strengthen his memory by use than to weaken it by disuse.

But if our author was anxious about the capacity and retentive power of his pupils' memories, he should not have crowded upon them in a short space of thirty pages, at the beginning of a Practical Grammar, thirteen general principles, fifty-one important definitions, and twelve "general rules" for constructing diagrams in which to place, not sentences, but the parts of sentences, after dissection.

Aside from any objections we would urge against the prominence given, thus early, to substantive, adjective, adverbial, prepositional, infinitive, and independent phrases—intransitive, transitive, simple, compound, auxiliary, complex, substantive, adjective, and adverbial sentences; we

(2) AN EXPLANATORY AND PRONOUNCING DICTIONARY OF THE NOTED NAMES OF FICTION. By WM. A. WHEELER. Boston: Ticknor & Fields. 12mo, pp. 410. \$2.

(3) A PRACTICAL GRAMMAR. By S. W. CLARK, A. M. New York: A. S. Barnes & Co. 12mo, cl., pp. 309. \$1.



think that pupils can not fail to be confused by the multiplicity and complexity of things following each other in such rapid succession. Are we told that experience is against us—that pupils do not become confused, as is shown by their ability to place the parts of sentences in the diagrams furnished for them? That does not prove that the operation is other than mechanical: it proves that the *machine* has been taken apart and *boxed*—just “that, and—nothing more.”

The system of analysis, as here presented, inevitably leads us into absurdities. Take, for example, the nursery doggerel:

This is the priest all shaven and shorn,  
That married the man, all tattered and torn,  
Unto the maiden all forlorn,  
That milked the cow with the crumpled horn,  
That tossed the dog,  
That worried the cat,  
That killed the rat,  
That ate the malt,  
That lay in the house,  
That Jack built.

First, what is the use (adopting the author's style of analysis) of all after the word *doggerel*? It tells what *particular* nursery doggerel is meant—hence, it is an adjective. And thus, all after the word *priest* is an adjective, because it tells what particular priest is meant. And that it requires all to tell this, will be seen at a glance; for, take away a single link from the chain—let it be some other cow, or dog, or cat, and the identity of the priest is gone. And so in each case, all that follows *man, maiden, cow, dog, cat, rat, malt, and house*, is an adjective. Thus, we have adjectives within adjectives—a nest of adjectives—the whole an adjective! Similar examples of the adverbial phrase may be given. Both these—the adverbial phrase, and the adjective phrase—we consider logical absurdities. Neither the one answers to the true idea of the adverb, nor the other to the true idea of the adjective.

But let us look at our author's first lesson, and then at some of his definitions framed to meet his particular “system of analysis.”

“God moves in a mysterious way,  
His wonders to perform;  
He plants His footsteps in the sea,  
And rides upon the storm.”

On this passage, among other questions we have the following:

“How does God move?  
In a mysterious way.  
God moves in a mysterious way—why?  
To perform his wonders.  
What is the use of *plants*?  
To tell what he does.  
What is the use of *in the sea*?  
To tell where he plants his footsteps.  
What is the use of *rides*?  
To tell what he does.  
What is the use of *upon the storm*?  
To tell where he rides.”

“Remark—The young pupil has seen, in this exposition of the four lines written above, that words have meaning.”

In all candor, has “the young pupil” seen any such thing? Or, if he has, think of his acquiring the idea, by means of direct instruction, that God acts in a hidden, secret way, for the *purpose* of performing wonders: or think of his imagining the Ruler of the Universe astride a storm, and having a jolly ride, like a boy coasting on his sled. We should prefer that our boys gain no such ideas of God.

It is ignoring both philosophy and good common sense, to select, as a first lesson “for the young pupil,” highly figurative language, and never give him a single hint of its figurative character.

But if our author is unfortunate in his system of analysis, and in his exposition of language, he is still more unfortunate in his definitions, formed to accord with his theory.

“A sentence is an assemblage of words so combined, as to assert an entire proposition.” This rules out all sentences which simply command. “Go to the ant, thou sluggard, consider her ways, and be wise,” is not a sentence, because it *asserts* nothing.

“Every sentence must have a subject and a predicate.”

“Go thou and do likewise,” is not a sentence, under the definition, because it does not contain a predicate.

“The subject of a sentence is that of which something is asserted.”

In the command, “Come thou here;” *thou* is not the subject, because nothing is asserted of *thou* as a subject.

“A transitive sentence is a sentence that asserts an act which terminates on an object.”

“Keep thine own secrets,” is not a transitive sentence; because it does not *assert* an act which terminates on an object.

“An auxiliary sentence is a sentence

that is used as an element in the structure of another sentence, or of a phrase."

Examples. "A mortal disease was upon her vitals, *before Caesar had passed the Rubicon.*" Is this auxiliary sentence (in italics) used in any sense, in the structure of the other sentence? What does *structure* mean? "A prefix is one or more letters placed before a radical to form a derivative word." "A suffix is one or more letters added to a word to make it derivative." Is *that* what prefixes and suffixes are for—just to *make words derivative*? We confess our ignorance. We supposed that prefixes and suffixes were attached to words for the purpose of *varying their signification*.

"A noun or pronoun varied in its orthography, so that it may indicate a relation of possession, is in the possessive case."

"The possessive case does not always indicate possession."

"*Children's shoes.* Here the word *children's* does not imply ownership. It simply specifies 'shoes' as to size." That is, the possessive case is not the possessive case of the definition. Did it occur to the author that his trouble might lie in the

definition, though the definition might not lie? Did he not see the absurdity of his "Possessive Adjectives," and "Possessive Specifying Adjectives," under his definition of the word possessive? that every objection which he urges against the *possessive case*, applies with equal force to his *possessive adjectives*?

"A relative pronoun is a pronoun used to introduce a sentence, which qualifies its own antecedent." A relative pronoun *may* introduce a sentence, etc. But is this a definition by which a pupil can tell a relative pronoun? "That is the man to *whom* I gave it. That is the very thing for *which* I contended." What are *whom* and *which* in these examples? relative pronouns?—not under the definition. What then *are* they? The author has placed them in his list of relatives, but in his definition he has excluded them from the class.

There is much more of a similar character in the book deserving attention; but we have already extended this notice to an unusual length. We will, however, add that the author has done as well with a faulty system as any one could have done; and has pursued, to the end, a bad theory, with amazing consistency.

## EDUCATIONAL INTELLIGENCE.

### NEW ENGLAND.

MASSACHUSETTS.—Six merchants of Boston have contributed \$30,000 toward the new memorial hall of Harvard University.

RHODE ISLAND.—At its late session, the legislature passed a bill prohibiting the exclusion of children from any public school on account of color or race. The act went into effect on May 12th.

CONNECTICUT.—The Yale College faculty is about to open a boarding-house for students next term, the object being to furnish good and substantial food at cost prices.

### MIDDLE STATES.

NEW YORK.—At the session just closed, the legislature passed an act establishing four additional Normal Schools.

—In extent, operation, and means, the common-school system of New York city is unrivalled in the world. It proffers free

instruction, from the elementary principles of knowledge through the highest branches of a collegiate course, to every child in the city, between four and twenty-one years of age, who can obtain admission into its two hundred spacious schools; it furnishes books, stationery, and apparatus, without charge to either parent or pupil, and expends upward of \$2,500,000 annually. During 1865, the aggregate number of pupils in the several schools was 216,955, with an average attendance of 91,502. During 18 weeks in the early part of the year, there were held 43 evening schools, with 24,056 pupils enrolled, and an average attendance of 11,487. There are upward of 2,500 teachers, whose aggregate salaries exceed \$1,300,000. The professors in the Free Academy receive \$3,750 per annum, principals of the grammar schools, \$2,250, and the average salary of male teachers in grammar schools is somewhat more than \$1,500. The lowest salary given to female teachers in grammar schools is \$400, and the highest, \$1,200. By act of the legislature, the name

of the Free Academy has been changed to "The College of the City of New York."

PENNSYLVANIA.—La Fayette College has been reorganized and endowed. Several new professors have been appointed.

#### SOUTHERN STATES.

MARYLAND.—During 1865, the first year of the public school system in this State, there were 807 schools in operation, attended by 34,038 pupils. The amount of teachers' salaries was \$75,983.97, and the total expenditure, \$34,758.62.

DISTRICT OF COLUMBIA.—The Rev. Mr. Kimball, of the Freedmen's Bureau, Superintendent of the Education of the colored children within the department of Washington, has just rendered a report to General Howard, in which it is shown that there are at present 62 day schools in the city, with 115 teachers, and an average attendance of 4,756 pupils. Of the whole number in attendance, 5,388 can read, and 2,304 are able to write. In addition to the day schools, which are wholly supported by the contributions of benevolent Northern aid societies, there are 16 night schools, 24 Sunday schools, and six industrial schools, all of which are well attended.

—M. H. de Mariels, editor of *Le Messager Franco-Américain*, has just established, near Washington, a farm school, after a model of similar institutions in France and Algiers, for colored orphans of both sexes. The institution is capable of accommodating 200 inmates.

VIRGINIA.—A majority of the students of the University of Virginia have been in the Confederate army, mostly as officers.

GEORGIA.—The legislature, by resolution, has authorized the appointment of a committee to prepare a system of common-school education, to be reported at the next session.

TEXAS.—The Texas school fund is larger than in any other State, the whole amount at present being \$3,351,992.46, and a university fund of \$307,87.04. Besides this, each county in the State is entitled by law to four leagues of land, equal to 17,712 acres, for school purposes, while 162,183 acres were also appropriated for universities.

None of this enormous fund has yet been used for school purposes, as no educational system has ever been organized. On March 19th, the Convention, after mature deliberation and a free discussion, adopted the following sections in the educational bill, as reported by the committee having the subject in charge:

Seco. 1. A general diffusion of knowledge

being essential to the preservation of the rights and liberties of the people, it shall be the duty of the legislature of the State to make suitable provisions for the support and maintenance of public schools.

Seco. 2. The legislature shall, as early as practicable, establish a system of free schools throughout the State; and as a basis for the endowment and support of said system, all the funds, lands, and other property heretofore set apart and appropriated, or that may hereafter be set apart and appropriated for the support and maintenance of public schools, shall constitute the public-school fund; and said fund, and the income derived therefrom, shall be a perpetual fund, exclusively for the education of all the white scholastic inhabitants of this State; and no law shall ever be made appropriating said fund to any other use or purpose whatever.

Various propositions were made to amend this section; but the majority in every instance either laid them upon the table, or rejected them. The proposition to strike out the word "white" was voted down by 60 yeas to 6 nays.

This section, infamous as it is, was not considered enough, and therefore the following was adopted:

Seco. 7. The legislature may provide for the levying of a tax for educational purposes: Provided, the taxes levied shall be distributed from year to year, as the same may be collected; and, provided, that all the sums arising from said tax, which may be collected from Africans, or persons of African descent, shall be exclusively appropriated for the maintenance of a system of public schools for Africans and their children; and it shall be the duty of the legislature to encourage schools among these people.

Among the propositions to amend this section was one by Mr. Roberts (President of the Secession Convention), which was, that the legislature may tax one race without taxing the other, or may impose a different rate of taxation upon the two races, as the public interest may require.

Upon a former occasion, Mr. Roberts expressed himself against education in general, and proclaimed the educational system of New England a "magnificent failure;" but to-day, he appeared to have some new ideas. He warned the convention "that unless something was done for the education of the colored children, we should see trouble. When this ordinance was read at the North, it would excite the indignation of the people, and before we knew it, the country would be overrun with Yankee men and women, who, under pretence of teaching the niggers, would poison their minds, and thus sow the seeds of disaffection. The speaker's warning did not alarm the House, and his amendment was voted down; and then, an old Union member offered the following:

Provided, that all sums collected from

Africans shall be collected by assessors and collectors of African descent, to be elected or appointed as the legislature may provide for.

In defense of this amendment, it was urged that inasmuch as it seemed to be settled that the negro educational system was to be self-sustaining, there was no good reason why the colored men should not collect their own funds: if they did, they would have a larger sum; and if the funds were stolen, they would have the benefit of the stealings, instead of being robbed, as usual, by white men.

This amendment was laid upon the table by 38 yeas to 10 nays.

No better illustration of the feeling, not only of the convention, but of the people generally, toward the colored race, can be given, than this act of barbarity and injustice; and when it is submitted to the people for their approval or rejection, it will be adopted by a large majority.

#### WESTERN STATES.

**OHIO.**—The subscription fund for the endowment of Antioch College already amounts to \$120,000, and the friends of the College are hopeful of securing a quarter of a million.

**WISCONSIN.**—We take the following digest from the Wisconsin Journal of Education:

According to the State Superintendent's Report there are 11,948 more scholars reported as attending public schools this year than last. The whole number of members is 66 per cent. of the whole number over 4 and under 20 years of age in the State. The number less than 4 years of age, who have been registered, is 1,252. The number over 20 years of age, who have attended school, is 1,523. The average length of time the public schools have been kept during the past year is 14 days more than it was last year, and more than it has ever been, except in 1860. The number of teachers employed in public schools was 7,532. During the past year there has been an increase of 513 male teachers. The demand for teachers is at present greater than the supply. Hundreds of persons possessing limited attainments are employed, not because the people are indifferent to their qualifications, but because the school-houses would be unoccupied unless these were employed. There has been an increase in the monthly wages paid to teachers. The average wages of male teachers was \$36.45, an increase of \$4.06; of female teachers, \$22.24, an increase of \$2.81. There has been raised by tax for school purposes \$2.70 for each child over 4 and under 20 years of age, and \$4.07 for each child registered as a member of public schools. The number of school-houses is 4,838, accommodating 241,595 pupils. There are 517 school-houses with-

out blackboards, and 3,943 without clocks. The number of children of school age in the State is 335,592, and the amount of public money apportioned to each pupil is 46 cents.

**CALIFORNIA.**—The biennial report of Mr. Swett differs from any other we have seen, and, in the fullness with which many matters relating to school management are discussed, it resembles a labored educational treatise rather than the abstract report of a State officer. In the State there are 95,067 white children, of whom 41,376 belong to the public schools and 12,473 to private schools. The average attendance of pupils during the last year was .88, and .59 of the whole number enrolled in the State. There were 821 districts and 947 schools of all grades. Of the latter, 89 are brick, 765 are wood, 12 are adobe, 69 are rented, and 149 disgrace the State. 102 new school-houses were erected during the past year. There were 8 schools for blacks, attended by 278 pupils. The number of teachers was 1,155, of whom only 468 were sufficiently intelligent or alive to their own interests to subscribe for an educational journal, and only 272 attended county institutes. The total expenditures for 1865 were \$883,116;—for teachers' salaries, \$526,856; for school-buildings, \$257,804; for rent, etc., \$39,056; for school libraries, \$5,792; and for apparatus, \$3,777: an increase of expenditure of \$227,917. The whole school property is valued at \$1,024,999. The average salary of male teachers was \$74; of females, \$62. \$8,000 were appropriated for the State Normal School. The total amount expended for educational purposes, since the founding of public schools, is estimated at \$5,737,000. Throughout the State there has been a very gratifying increased average in the daily attendance. Since 1863 the number of school children has increased .26, while the attendance has increased .46. During 1865 the increase of census children was .093, and of children on school-rolls .16. The average length of the school-year is now 7.36 months, which equals that of New York, and is exceeded only in Massachusetts and Nevada. In his report Mr. Swett recommends the introduction of calisthenics into the schools. He discusses The Bible in the Schools, Moral Training, School Discipline, Pedagogical Law, and other subjects in a series of carefully prepared papers. The report is a fine model which other superintendents might imitate to their advantage.

#### FOREIGN.

**ITALY.**—The annual expenditure for educational purposes is \$3,007,813, of which only one-tenth is devoted to elementary schools, which the country most needs. The rest is spent on the universities, learned societies, and an army of officials.

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The Eureka Liquid Slating will always give satisfaction when properly applied.

JOHN D. PHILBRICK, *Supt. Pub. Schools, Boston, Mass.*

PALMYRA, N. Y., Dec. 8th, 1863.

I have used boards made of almost every variety of wood; those made of "Hard-Finish," painted; those made of Plaster of Paris, Beach Sand, Lime and Lamp Black, and those made of Quarry Slate: and I am compelled to say that I think the surface made of Eureka Liquid Slating is decidedly superior to any thing I have ever used. If it could not be replaced I would not take \$20 for the board in my recitation-room.

J. DUNLAP, *Principal Palmyra Classical Union School.*

GREENVILLE, N. J., Nov. 11th, 1863.

The great desideratum is at last found—a smooth, jet-black, unbroken, durable blackboard surface, such as cannot be obtained in any other way, or by any other means, than by the invaluable "Eureka Slating;" invaluable, because, in my estimation, it excels in every desirable quality, the costly, jointed, grayish stone slating now in use. It is my conviction that the "Eureka," once tested, will become universally used. I most heartily commend it to my fellow-teachers, and all interested in educational improvements.

WM. H. STORRS, *Prin. Pub. Sch. Greenville.*

WHITE HALL ACADEMY, PENNSYLVANIA, Nov. 29th, 1862.

Two years ago I applied a quart of your "Eureka Liquid Slating" to about 120 feet of blackboard surface in my school-room, and it is now as good as when first applied; and during ten months of each year it has been used daily by about thirty pupils. The old surface was covered with ordinary lampblack and oil, and like most such boards was too smooth for chalk crayons. The "Eureka Liquid" produces the best surface for blackboards that I have ever used. Our School Board authorizes me to send for a gallon for other rooms.

WM. B. BIGLER, *Teacher.*

WHITE PLAINS, N. Y.

Your Liquid Slating is wonderful. I applied it to some old blackboards, and it is very nearly like a stone slate.

O. R. WILLIS, *Principal.*

TEMPLE GROVE FEMALE SEMINARY, SARATOGA, N. Y., July 1st, 1863.

My Blackboards were slated about three years ago, and they are yet in perfect condition. There is nothing equal to this Liquid Slating.

(REV.) L. F. BEECHER (D.D.) *Principal.*

PORTLAND, ME., June 8th, 1863.

I have used it with hearty satisfaction. Mr. Benton, our Phonographic Instructor, remarks that he was prepared to find it good "but the half had not been told him." I have observed that, sit where you please in the room, provided you can see the board fairly, every character written upon it is distinct to the eye, and is not obscured by the reflection of the light from its surface, as is the case with those which are covered with the common paint.

H. T. CUMMINGS.

The Eureka Liquid Slating is having a great demand and gives perfect satisfaction. It was recently applied to some of the walls in Cooper Institute. Mr. Peter Cooper is highly pleased with the perfect slate surface which it has produced in that noble monument "to Science and Art."—*Ed. Herald.*

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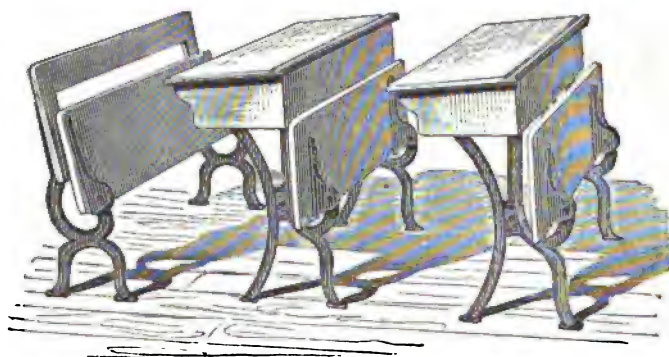
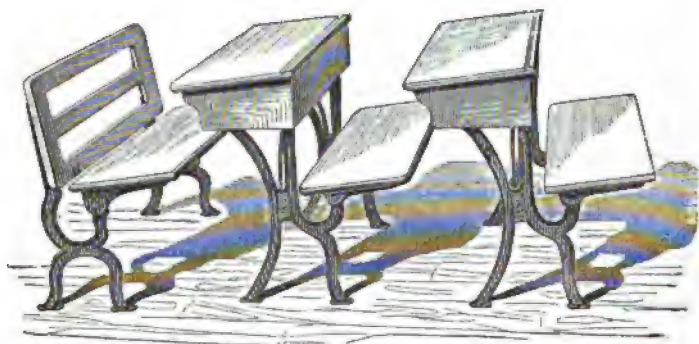
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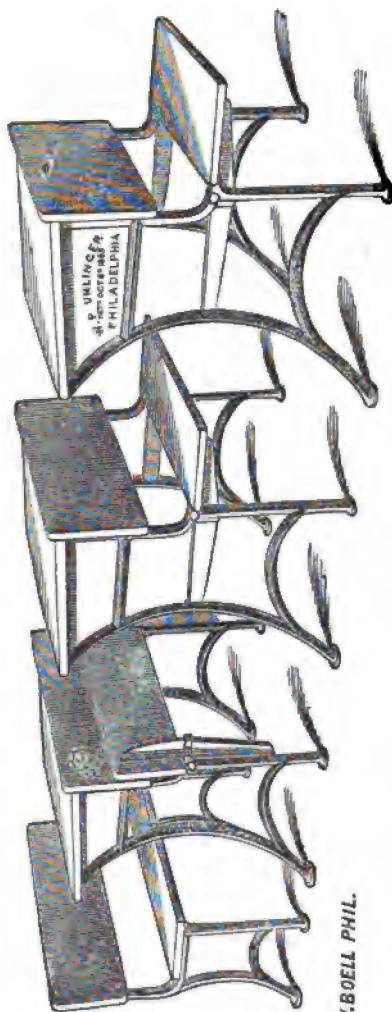
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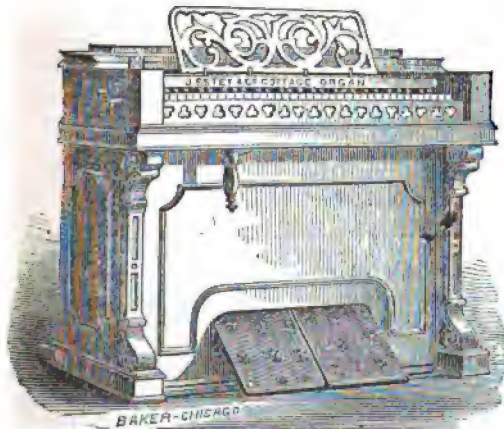
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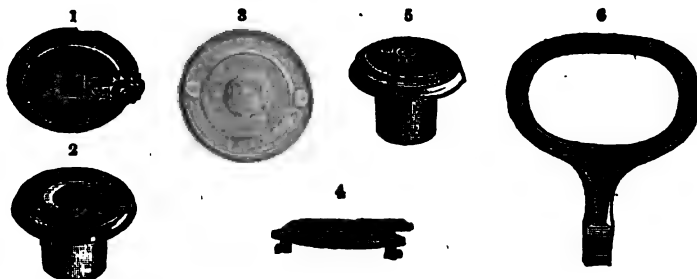


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WHAT grace, O Lord, and beauty shone  
Around Thy steps below;  
What patient love was seen in all  
Thy life and death of woe.

2 For, ever on Thy burdened heart

A weight of sorrow hangs;  
Yet no ungentle, murmuring word  
Escaped Thy silent tongue.

3 Thy foes might hate, despise, revile,

Thy friends unfeignedly love;  
Unwearied in forgiveness still,  
Thy heart could only love.

4 O give us hearts to love like Thee;

Like Thee, O Lord, to grieve,  
Far more for others' sins, than all  
The wrongs that we receive.

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ONCE more the sun is beaming bright,  
Once more to God we pray,  
That His eternal light may guide  
And cheer our souls this day.

2 Oh, may no sin our hands defile,

Or cause our minds to roam;  
Upon our lips be simple truth,  
And in our hearts be love.

3 Throughout the day, O Christ, in Thee

May ready help be found;  
To save our souls from Satan's wiles,  
Whom none is able to wound.

4 Behold us to Thy daily praise

Our daily toil shall be;  
So may our works, in Thee begun,  
Be further'd, Lord, by Thee.

LET this mind be also in you which was in Christ Jesus.

2 For even hereunto were ye called, because Christ also suffered for us, leaving us an example, that ye should follow his steps.

3 Let us run with patience the race that is set before us, looking unto Jesus, the author and finisher of our faith; who, for the joy that was set before him, endured the cross, despising the shame, and is set down at the right hand of the throne of God.

4 For consider him that endured such contradiction of sinners against himself, lest ye be wearied and faint in your minds.

5 If I, then, your Lord and Master, have washed your feet, ye ought also to wash one another's feet.

6 For I have given you an example, that ye should do as I have done to you.

7 I am the good shepherd, and know my sheep, and am known of mine.

8 And other sheep have I which are not of this fold; them, also, I must bring, and they shall hear my voice; and there shall be one fold and one shepherd.

9 He shall feed his flock like a shepherd: he shall gather the lambs with his arm, and carry them in his bosom; and shall gently lead those that are with young.

10 Then spake Jesus again unto them, saying, I am the light of the world; he that followeth me shall not walk in darkness, but shall have the light of life.

11 For this cause came I into the world, that I should bear witness unto the truth. Every one that is of the truth heareth my voice.

12 Ye were as sheep going astray, but are now returned unto the Shepherd and Bishop of your souls.

13 Wherefore, holy brethren, partakers of the heavenly calling, consider the Apostle and High Priest of our profession, Christ Jesus.

14 We all, with open face, beholding as in a glass, the glory of the Lord, are changed into the same image, from glory to glory, even as by the Spirit of the Lord.

15 That we, speaking the truth in love, may grow up into him in all things, which is the head, even Christ.

16 Behold I have given him for a witness to the people, a leader and a commander to the people.

17 These are they which follow the Lamb, whithersoever he goeth.

18 I can do all things through Christ which strengtheneth me.



## Prayer.—Lesson CCXXXVIII.

**MERCIFUL FATHER:** We thank Thee for Thy great condescension and loving-kindness in providing for our every want; especially in the gift of Thine only begotten Son to be an example for us throughout our earthly life.

Enable us, O God, by Thy blessed Spirit, to enlarge our minds and hearts, so as to appreciate Him as our personal Saviour; that we may make Him our daily Pattern; that we may walk in the light He has given, and be fully prepared for all that awaits us in the future.

Grant us Thine aid to be, like Him, patient in suffering, trusting and hopeful in affliction; humble-minded, and faithful to friends, tender-hearted towards the weak and lowly, and ever fearless witness-bearers of the truth.

O strengthen us day by day, by clearer views of His character, and a gracious ability to conform to it more and more; that we may speak the truth in love; that we may strive as He did, against sin; that we may work as He worked, to save sinners; and that we and they may all be finally changed into the same image from glory to glory, even as by the Spirit of the Lord.

We would watch and pray with the same constancy, for a strong and steadfast faith in Thee, to reassure us in the hours of toil, of sorrow, and of gloom; for a deep and abiding love towards Thee, our Father, that we may worship Thee in Spirit and in truth, and enjoy Thee forever with the whole heart.

Grant us, we beseech Thee, Thy grace, that we may grow in knowledge, in wisdom, and in holiness, in order that we may become the joyful inhabitants of those mansions which He, our blessed Lord, has gone to prepare for those that love Him.

All which we ask in the name of our Redeemer and Saviour, Jesus Christ. Amen.

*O. O. Howard.*

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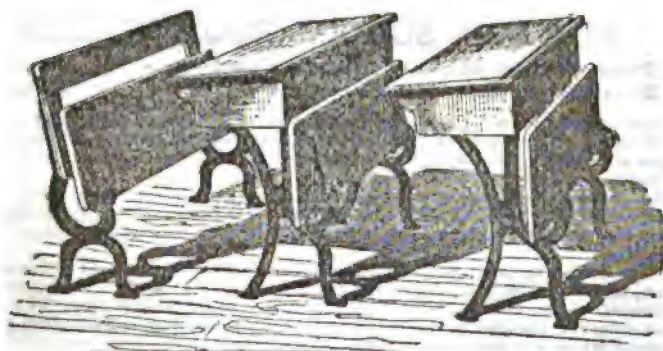
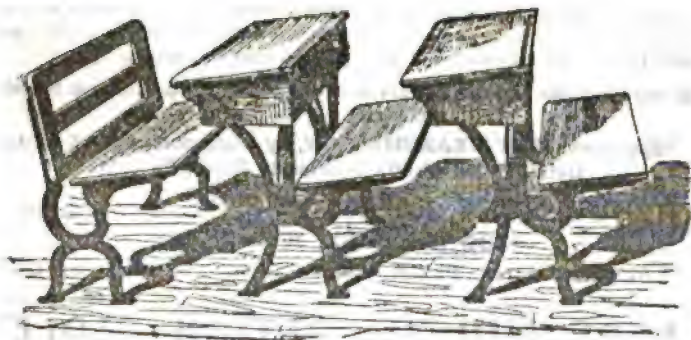
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## PEDAGOGICAL LAW

### V.

#### *The Law as to Religion in Schools.*

SEC. 1. "Congress shall make no law respecting the establishment of religion, or prohibiting the free exercise thereof." (*U. S. Const.*, Art. 1 of Amend.) It would seem to follow from this, that any State may establish a religion, and cause the same to be taught in its schools; for if Congress can make no law respecting the establishment of religion, it can make no law prohibiting the establishment of it. It is entirely within the power of the several States, therefore, to establish a religion for themselves or not, just as they may deem proper. It follows, also, that a State may establish a religious test for teachers; and this may be done for teachers of private as well as of public schools. As we deem it of the utmost importance that teachers should know precisely what is and is not required of them by law in matters of religious concernment, upon which the consciences of men everywhere are so tender, and which are so fruitful in likes and dislikes, disputes and contentions, we will now proceed to explain the law of the several States on this point, and at the same time give a legal history (gleaned from law records only) of the origin and progress of religious liberty in our country.

SEC. 2. In England, in the time of Charles II., all persons were prohibited from teaching school, "unless they be licensed by the ordinary, and subscribe a declaration of conformity to the liturgy of the Church, and reverently frequent divine service established by the laws of this kingdom." (13 and 14 Car. 2, c. 4; 17 Car. 2, c. 2.) This was the same Charles from whom Roger Williams obtained the charter for Rhode Island.

SEC. 3. In Massachusetts, our pious Pilgrim fathers thought it their duty, in founding a State, to make the weak in faith sound by fear, and enacted as follows: "If any person within this jurisdiction shall broach and maintain any damnable heresies, as denying the immortality of the

soul, or the resurrection of the body, or any sin to be repented of in the regenerate, or any evil to be done by the outward man to be accounted sin ; or shall deny that Christ gave himself a ransom for our sins ; or shall affirm that we are not justified by his death and righteousness, but by our own merit ; or shall deny the morality of the fourth commandment ; or shall openly condemn or oppose the baptism of infants ; or shall purposely depart the congregation at the administration of the ordinance of baptism ; or shall deny the ordinance of magistracy, or their lawful authority to make war and peace, and to punish the outward breaches of the first table ; or shall endeavor to seduce others to any of these opinions ;—every such person, lawfully convicted, shall be banished this jurisdiction. *No schoolmaster shall be admitted who is unsound in the faith.*" (*Plant. Laws*, 1704, pp. 44, 45, 89.) These laws seem to have been made in 1646, about ten years after the banishment of Roger Williams, the irrepressible advocate of religious liberty.

SEC. 4. In Connecticut, in 1642, the following laws were established : "1. If any man, after legal conviction, shall have or worship any other God but the Lord God, he shall be put to death. 2. If any man or woman be a witch—that is, hath or consulteth with a familiar spirit—they shall be put to death. 3. If any person shall blaspheme the name of God the Father, Son, or Holy Ghost, with direct, express, presumptuous, or high-handed blasphemy, or shall curse God in the like manner, he shall be put to death." In about 1655, the following laws were in force : "1. If any person turn Quaker, he shall be banished, and not suffered to return upon the pain of death. 2. No priest shall abide in this dominion ; he shall be banished, and suffer death on his return. Priests may be seized by any one, without a warrant. 3. No man shall hold any office, who is not *sound in the faith* ; whoever gives a vote to such person shall pay a fine of one pound sterling, and for a second offense he shall be disfranchised. 4. No Quaker, or dissenter from the established worship of this dominion, shall be allowed to give a vote for the election of magistrates or any officer. 5. No food or lodging shall be afforded to a Quaker, Adamite, or other heretic. 6. No one shall run on the Sabbath-day, or walk in his garden, or elsewhere, except reverently to and from meeting. 7. No one shall travel, cook victuals, make beds, sweep house, cut hair, or shave on the Sabbath-day. 8. No woman shall kiss her child on the Sabbath or fasting-day. 9. No minister shall keep a school." It is said by Peters, in his "History of Connecticut," that these laws were the laws made by the people of New Haven, previous to their incorporation with Saybrook and Hartford colonies, and were, as he says, very properly termed "blue laws,"—that is, bloody laws—for, he adds, they were all sanctified with excommunication, confiscation, fines, banishment, whipping, cutting off the ears, burning the tongue, and death. We do not reproduce these laws with pleasure, and have given only as many as



seemed necessary to convey a proper idea of the spirit with which Connecticut laws were made in those days.

SEC. 5. In New York, in 1694, by act of the Assembly, held in New York city, all Jesuits, Seminary priests, or other ecclesiastical persons, made or ordained by any power or jurisdiction derived or pretended from the Pope or See of Rome, residing or being within the province, were, under heavy penalties, required to depart the same before the first of November, 1700 (*Plant. Laws*, p. 294.) A similar law was in force at this time in Massachusetts. (*Plant. Laws*, p. 54.)

SEC. 6. In Maryland, where a distinguished historian assures us "religious liberty obtained a home, its only home in the wide world" (1 *Bancroft's Hist. U. S.*, p. 247), it was enacted that if any person whatever, inhabiting within this province, shall blaspheme—that is, curse God, deny our Saviour to be the Son of God, or deny the Holy Trinity, or the Godhead of any of the three persons, or the unity of the Godhead; or shall utter any reproachful words or language concerning the Holy Trinity, or any of the three persons thereof;—he or she shall, for the first offense, be bored through the tongue, and fined twenty pounds sterling. For the second offense, he or she shall be branded on the forehead with the letter "B," and fined forty pounds sterling, or imprisonment for one year. And for the third offense, he or she so offending shall suffer death, with confiscation of all their goods and chattels. (*Plant. Laws*, p. 8.) The Book of Common Prayer, and administration of the sacraments, with other rites and ceremonies of the Church of England, shall be solemnly read by all ministers in the churches and other places of worship in this province. (*Plant. Laws*, p. 62.)

SEC. 7. In Virginia, it was enacted that if any person brought up in the Christian religion shall, by writing, printing, *teaching*, or advised speaking, deny the being of a God, or the Holy Trinity; or assert or maintain there are more Gods than one; or deny the Christian religion to be true; or the holy Scriptures of the Old and New Testament to be of divine authority; and be thereof lawfully convicted upon indictment or information in the general court, such persons, for the first offense, shall be disabled to hold any office or employment, ecclesiastical, civil, or military, or any profit or advantage therefrom. And every such office or employment, held by such person at the time of his or her conviction, is hereby declared void. And every such person, upon a second conviction of any of the crimes aforesaid, in manner aforesaid, shall from thenceforth be unable to sue in any court of law or equity, or to be guardian to any child, or executor or administrator of any person, or capable of any gift or legacy, or to bear any office, civil or military, forever within this colony; and shall also suffer, from the time of such conviction, three years imprisonment, without bail or mainprize. (*Laws of Va.*, 1758, p. 14.) This same law was in force in South Carolina from about 1703. (*Pub. Laws*

of S. C., 1790, p. 3.) No other catechism could be taught than the Church catechism inserted in the Book of Common Prayer. (*Plant. Laws of Va.*, p. 12.) The following law was made in Virginia, in the year 1663, and was "in force and in use" still in 1704: "If any Quakers, or other separatists whatever, in this colony, assemble themselves together to the number of five or more, of the age of sixteen years or upwards, under the pretense of joining in a religious worship not authorized in England or this country, the parties so offending, being thereof lawfully convicted by verdict, confession, or notorious evidence of the fact, shall for the first offense forfeit and pay two hundred pounds of tobacco; for the second offense, five hundred pounds of tobacco; to be levied by warrant from any one justice of the peace upon the goods of the party convicted; but if he be unable, then upon the goods of any other of the separatists or Quakers then present. And for the third offense, the offender, being convicted as aforesaid, shall be banished the colony. (*Plant. Laws of Va.*, p. 52.) About the time this law was enacted in Virginia, and before any of the laws of the other colonies which we have cited were abolished, the people of the little colony of Rhode Island, perfectly consistent with their professions from the first settlement of their colony by Roger Williams, caused to be inserted in their charter, obtained from Charles II. in 1665, the grand original idea of religious liberty, which seems since to have been adopted to a considerable extent by nearly every State in the Union, and by some of them entire.

SEC. 8. RHODE ISLAND.—The language of the charter above referred to is as follows: "No person within the said colony, at any time hereafter, shall be any wise molested, punished, disquieted, or called in question for any difference in opinion in matters of religion, and do not actually disturb the peace of our said colony; but that all and every person and persons may from time to time, and at all times hereafter, freely and fully have and enjoy his and their own judgments and consciences in matters of religious concernments, throughout the tract of land hereafter mentioned, they behaving themselves peaceably and quietly, and not using their liberty to licentiousness and profaneness, or to the civil injury or outward disturbance of others." The charter further says that this remarkable liberty of conscience is given to the people of Rhode Island, in order "that there may, in time, by the blessing of God upon their endeavors, be laid a sure foundation of happiness to all America." To show the remarkable strength of the faith of these men in their new theory and religious liberty, which was to be "a sure foundation of happiness to all America," we transcribe the following law in full from one of their ancient records: "Whereas Almighty God hath created the mind free, all attempts to influence it by temporal punishments or burdens, or by civil incapacitations, tend only to beget habits of hypocrisy and meanness, and are a departure from the plan of the Holy Author of our religion, who, being Lord both of body

and mind, yet chose not to propagate it by coercions on either, as was in his almighty power to do ; that the presumption of legislators and rulers, civil as well as ecclesiastical, who being themselves but fallible and uninspired men, have assumed dominion over the faith of others, setting up their own opinions and modes of thinking as the only true and infallible, and as such endeavoring to impose them on others, hath established and maintained false religions over the greatest part of the world, and through all time ; that to compel a man to furnish contributions of money for the propagation of opinions which he disbelieves, is sinful and tyrannical ; that even the forcing him to support this or that teacher of his own religious persuasion, is depriving him of the comfortable liberty of giving his contributions to the particular pastor whose morals he would make his pattern, and whose powers he feels most persuasive to righteousness, and is withdrawing from the ministry those temporary rewards which, proceeding from an approbation of their personal conduct, are an additional incitement to earnest and unremitting labors for the instruction of mankind ; that our civil rights have no dependence on our religious opinions ; that therefore the proscribing any citizen as unworthy the public confidence by laying upon him an incapacity of being called to offices of trust and emolument unless he possesses or renounces this or that religious opinion, is depriving him injuriously of those privileges and advantages to which, in common with his fellow-citizens, he has a natural right ; that it tends only to corrupt the principles of that religion which it is meant to encourage, by bribing with a monopoly of worldly honors and emoluments those who will externally profess and conform to it ; that though, indeed, those are criminal who do not withstand such temptation, yet neither are those innocent who lay the bait in their way ; that to suffer the civil magistrate to intrude his powers into the field of opinion and to restrain the profession or propagation of principles, on supposition of their ill tendency, is a dangerous fallacy, which at once destroys all religious liberty, because he being of course judge of that tendency, will make his own opinions the rule of judgment, and approve or condemn the sentiments of others only as they shall square with or differ from his own ; that it is time enough, for the rightful purposes of civil government, for its officers to interfere when principles break out into open acts against peace and good order ; and, finally, that truth is great and will prevail, if left to herself ; that she is the proper and sufficient antagonist to error, and has nothing to fear from the conflict, unless, by human interposition, disarmed of her natural weapons, free argument and debate—errors ceasing to be dangerous when it is permitted to contradict them. And whereas, a principal object of our venerable ancestors in their migration to this country and settlement of this State was, as they expressed it, ‘to hold forth a lively experiment, that a most flourishing civil state may stand, and best be maintained with a full liberty in religious concerns’—Be it therefore enacted by the

General Assembly, and by the authority thereof it is enacted, that no man shall be compelled to frequent or support any religious worship, place, or minister, whatever; nor shall be enforced, restrained, molested, or burdened in his body or goods; nor shall otherwise suffer on account of his religious opinions or belief; but that all men shall be free to possess, and by argument to maintain, their opinions in matters of religion; and that the same shall in no wise diminish, enlarge, or affect their civil capacities." (Laws of R. I., 1798, p. 81.)

The same principles, in almost the same words, are enunciated in the present Constitution of Rhode Island (Art. 1, sec. 3). After being "fourteen weeks sorely tossed in a bitter season, not knowing what bread or bed did mean," at last, in June, 1636, the exiled Roger Williams, with five companions, embarked in a frail Indian canoe to find and found a home for religious liberty. Tradition has marked the spring near which they landed; it is the parent spot, the first inhabited nook of Rhode Island. This place Williams called Providence. "I desired," said he, "it might be for a shelter for persons distressed for conscience" (1 Bancft. 379); and such a shelter it very soon became. At a time when Germany was a battle-field for all Europe in the implacable wars of religion; when even Holland was bleeding with the anger of vengeful factions; when France was still to go through the fearful struggle with bigotry; when England was gasping under the despotism of intolerance; almost half a century before William Penn became an American proprietary; two years before Descartes founded modern philosophy on the method of free reflection (1 Bancft. 375); and nearly a whole century before any of the older American colonies stopped branding, cutting off the ears, boring the tongue with a red-hot iron, banishing, and putting to death for conscience sake—Roger Williams asserted the great doctrine of religious liberty, and suffered sorely for it; but afterwards had the satisfaction of laying the foundation of an independent State, based on the broad principles of civil and religious liberty, such as the world till then had never seen.

Nearly two centuries and a half have passed away since the settlement of Rhode Island, but the people, as we have shown, hold fast to their first principles. The spirit so manifest in the laws we have cited, is the spirit of their laws in general. In their schools religious liberty is practiced, inculcated, and protected by law. No teacher or scholar is proscribed there on account of religious opinions.

We will explain the laws of the other States hereafter.

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A man once asked a peasant what part he played in the great drama of life. "I mind my own business," was the reply.

## ISOMETRIC DRAWING,

## FOR COMMON SCHOOLS.

[The following is the first of a series of articles which will extend through several numbers of the MONTHLY. They will constitute a progressive series, and will gradually introduce the higher mechanical drawing. We are confident that they will be appreciated by our readers, and prove a valuable addition to the course of study pursued in our common schools.—EDITOR.]

*Prefatory Remarks.*

IN most of our schools, there are many young men whose course of study begins and ends within the same walls, and whose acquirements, as they finish "schooling," are limited to the short list of primary English branches.

The majority of these pupils in after-life engage in pursuits more or less connected with the mechanic arts. To all such, some knowledge of drawing is indispensable; yet, having no time for the intricacies of perspective, and but slight inducements to acquire proficiency in free-hand drawing, the rudiments of graphic representation are left unlearned.

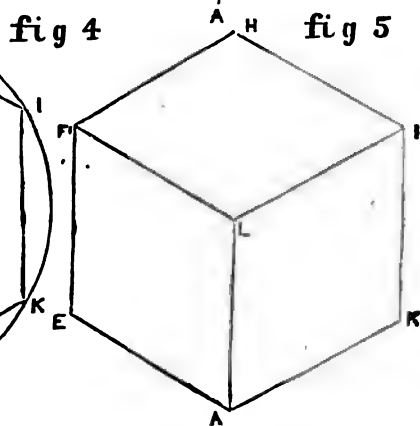
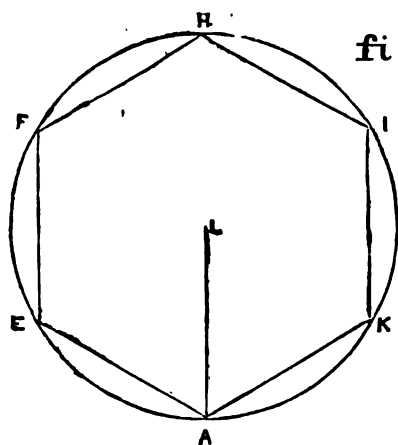
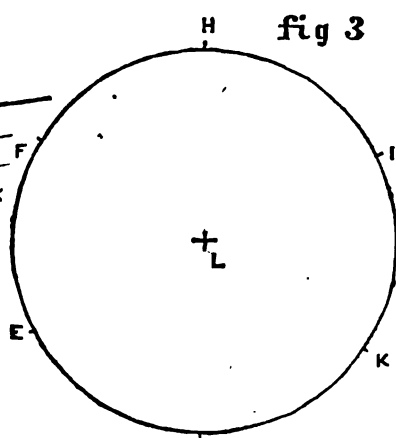
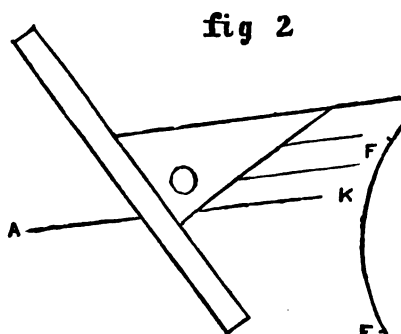
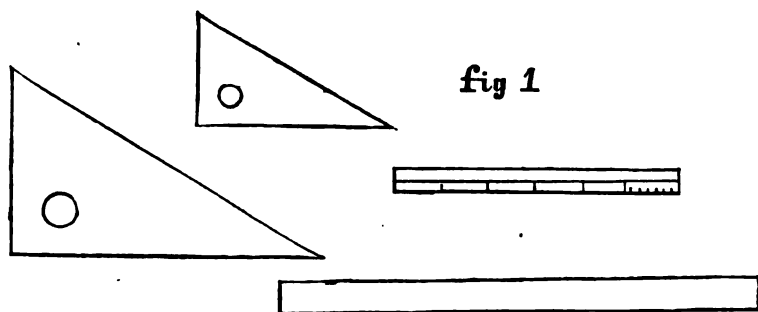
For such, the system of Isometric drawing is of undoubted value; requiring no previous knowledge of geometry, and involving but few technical terms, it may be acquired by any one who can draw parallel lines of a given length, and divide them by a scale.

It is designed that the following exercises be drawn upon the black-board, with approximate correctness, or upon proper paper surface, exactly to scale. In either case, they afford valuable training for the pupil, and a good introduction to higher branches of drawing.

A good preliminary exercise for pupils of nine or ten years of age is that of drawing straight lines upon the board without a ruler, and at the same time of a given number of inches in length, or of the length of a stick or string held up by the instructor. This exercise is further varied by requiring lines to be drawn by the pupil, which make a given angle with each other—the angle may be expressed in degrees, or by exhibiting the angle cut from paper.

After much experience in the class-room, the author confidently recommends these exercises to the consideration of teachers, and hopes they may be found to afford a pleasant and profitable variety in the routine of school-labor.

The learner is referred to the first pages of any work on geometry for definitions of the few geometrical terms used in the following exercises.



## CHAPTER I.

## LESSON 1.—THE CUBE.

We will commence our work by drawing a circle ; if you draw it upon the blackboard, let the radius be about six inches ; the radius in Fig. 3 is one inch, which is sufficient for a drawing upon paper.

If you have no dividers, the circle may be drawn by a pencil tied near the point by a thread—a method which I need not describe more fully. When the circle is complete, keep the distance or radius carefully, and, beginning at the lowest point in Fig. 3, measure or lay off this distance about on the curve, making dots at the points where the measurement falls. There will be exactly six of these distances.

Now join these points by straight lines, as in Fig. 4.

Draw lines from the center, L, to A, to F, and to I, and rub out the circumference. Your drawing, now, should be like Fig. 5. It is called *the isometric projection of the cube*.

In the succeeding lessons, we shall make our drawings without any circle, but by the aid of rulers, such as are represented in Fig. 1. You should be provided with them before drawing the next exercise.

The rulers should be thin, of hard wood, and the angles of the triangles should be precisely  $30^{\circ}$ ,  $60^{\circ}$ , and  $90^{\circ}$ . They are sold in the cities under the name of isometrical rulers. In the country, you can get them made by a carpenter, if you will furnish him a paper pattern, which you can make in the following manner :

Draw an isometrical cube, just as in this exercise, on a sheet of thick paper ; but let the radius be about eight inches. When the cube is complete, draw a faint line from L to H, and another from I to F ; the upper face of the cube will then be divided into four triangles, like each other, and of the exact shape of the isometrical ruler ; either of these being cut out, forms a good pattern from which a carpenter or cabinet-maker can make you a suitable ruler. Its edges should be quite straight, it should be less than one-eighth of an inch thick, and when correctly made, the shortest side is exactly half the length of the longest.

The shortest ruler in Fig. 1 is marked off in inches divided to eighths ; the longer one is a plain, straight, thin ruler, and for blackboard purposes should be about twenty inches long ; for the drawing-book or paper, ten inches is sufficient.

The method of drawing parallel lines by the aid of the triangular ruler is shown in Fig. 2, and will be more particularly described in the next lesson.

You will please observe that Fig. 5 is formed of nine straight lines, three of which are vertical, or perpendicular to the bottom of the page ; three incline upward to the right, forming an angle of  $60^{\circ}$  with the vertical lines ; and three incline to the left at the same angle. It will be a profitable exercise to practice drawing this figure without the aid of rulers.

## A FEW OF MY TROUBLES.

**T**HERE are good reasons why I should present this subject. In the first place, if I do not give an account of my own troubles, it is very doubtful whether any one else will, as I have reason to think that no person in the world is so deeply interested in them as I am, or has bestowed so much time to the consideration of them. And then, I believe, seriously, that my troubles are not mine only. Haven't you, many a time, sat alone in your school-room after the day's duties were done, and looked drearily around at the rows of vacant seats—at the figures on the black-boards—at the cobwebs in the further corner of the ceiling—at the clean-faced clock that ticked unusually loud, now that the place was still, and the echoes of poorly enunciated English, that make the air ache six hours out of a day, were quiet at last?

Haven't you sat thus, with your tired head in your hands, and both elbows resting on the desk, while the silence brought to you thoughts of the day's work? Are you ever satisfied with it? Can you look at it, and say, "This is quite perfect, and satisfies me?" On the contrary, are you not filled with depressing doubts and misgivings, and oftentimes with a wretched sense of your own shortcomings, and the inadequacy of the work you are doing?

There is no use talking of this. Try to tell your confidential friend about it. "Nonsense," he cries. "You are a tip-top teacher—you've got a fit of the blues—all you want is fresh air."

There is truth in this; still, a whole skyfull of fresh air fails to wholly divest my mind of a subtle sense of unsatisfaction in the work I am doing. It is not because the work is not a good one. In my soul, I believe there is no higher or nobler work than that which is set before teachers. It is not because I find unusual difficulties in the way—nothing of the sort. My scholars are not insubordinate or defiant; for the most part, they are dutiful, attentive, and diligent. And yet, I am greatly dissatisfied with the work I do for them. So you see that my troubles are rather indefinite; that they are subjective rather than objective. Yet, notwithstanding they are vague and intangible, and exist only in my own mind, they are real, and cast very real shadows.

To begin, then: it gives me a sense of annoyance that our work is so very prosaic and commonplace. The work of education, when viewed as a grand, triumphal crusade against the powers of darkness, is indeed inspiring. "But above all," cries the clarion voice of one of the world's great teachers, "above all, where thou findest ignorance, brute-mindedness, stupidity, attack it, I say. Smite wisely, unweariedly, and rest not while thou livest and it lives; but smite! smite in the name of God!" I suppose ignorance, stupidity, brute-mindedness rose before Carlyle in



serried and embattled ranks, where any gallantly accoutered knight might find worthy foe ; and if I could encounter them in that guise, no one knows what a gallant charge I would make. But the warlike spirit dwindles perceptibly, when I meet the worthy trio closely leagued and strongly fortified in a little stolid-faced child who stands at my knee. However, I whet up my battle-axe—a very mild one—and begin the attack.

“George, what letter is that ?

“A. Say A, George.

“Look at it again, so as to know it next time. Now, remember that is A.

“Now, George, what is it ? You don’t know ! Didn’t I just tell you it was A ? Try to remember it now, George.”

“Ugh !”

But then, it is a glorious work ! You have heard the popular and eloquent Mr. B., who is a man of veracity, say so. Surely, it is a glorious work to train immortal minds ; to build a temple that shall stand when palaces have crumbled, and the adamantine hills have melted away ; to kindle a light that shall shine on when the world is lost in ruin, and the stars and suns have ceased to be. It is very exhilarating to hear all this ; but after all, you and I don’t often see the Eternal temples. We daub away with untempered mortar at the wretched little bricks that form our every-day building material ; what we pile up one day falls down the next, very likely, and we see no great architectural results.

Edward Everett has told us that, “From the humblest village school there may go forth a teacher who, like Newton, shall bind his temples with Orion’s belt ; with Herschel, light up his cell with the beams of before undiscovered planets ; with Franklin, grasp the lightning.” And this encouraging statement is not without a certain air of probability, since it is altogether more likely such a teacher would go from the school than that he would continue in it ; but, for all that, when we have been carried off into mid air by sublime words like these, and then have come down to the earth again, we find we are still the same ordinary mortals that we were before we went up, and that we are not likely to bind any thing upon our temples, except a wet towel for the headache ; that we still burn kerosene in our cells, and find that high enough, without going as high as starlight ; and, ignoble creatures, we have not the slightest desire to be burnt with lightning.

Truly, there seems to be a laughable incongruity between the lofty and inspiring words that men utter of this work, and the work as we find it day by day—dull, commonplace, absurd, and wearisome.

Is it because they have a higher stand-point than we, and can see further, while we grope with our eyes intent upon what is nearest and most obvious ?

If work that is truly grand would only look so to those who are doing it, wouldn't it be a comfort ?

It is another fruitful source of self-torment, that I never can make my real school come up to my ideal of what a school ought to be. Many a time, during the weary night-hours, have I resolved a thousand possibilities in the way of teaching. Nothing is more delightful than to teach an ideal school. You have a fine theory of government founded on abstract principles of right and justice ; you lay out complete, or at least symmetrical courses of study ; you have adequate text-books to carry out your plans. Your ideal teacher is of clear understanding and broad culture, of unerring tact and great self-control ; he wields unbounded influence over the ideal scholars, who are eager, aspiring, striding up the hill of science in true excelsior style. The parents and school-officers are appreciative, and blandly, even thankfully pay the bills, and co-operate in all of your plans. Every thing in your theoretic school works beautifully. There is not a hitch in the machinery ; bands, and wheels, and grooves, and pivots—every thing is smooth and perfect, and works with certainty to the accomplishment of the desired end.

But test the wonderful machine in real life. I know, and so do you, what would become of it. We might as well try to run a steam-engine over the corduroy roads of Virginia. Every log is an uncompromising fact. The fine piece of mechanism would be shattered before it had gone half its length, and the heart-broken inventor would be glad of any clumsy-wheeled old wagon and patient donkeys that would bounce, and shake, and tumble him over the rest of the road.

So, theorize as I will, in real teaching the customs and opinions of the community, the clumsy text-books, the peculiarities of each scholar, my own faults, are so many absolute facts ; they can not be ignored. Perhaps one out of twenty will work with my plan, the other nineteen go dead against it. So there is nothing left for me, poor mortal, but to pocket my ideal—the pieces of it—with a sigh, and a heart-sinking, and a general fading of the *couleur de rose* out of my special horizon, and go to work with what remains—the stubborn, unmitigated facts. It is impossible to make the facts fit the ideal, so the school is made to suit the facts ; and thus it happens that my real school is a great coming down from the one in the castle.

In the matter of school discipline, I believe its tendency in a Christian land should be to educate the conscience ; to teach youth to have the fear of God rather than the fear of man before their eyes ; not only to enforce certain school regulations to-day, but to instil principles of action that shall stand good under all circumstances of life. Yet not one teacher in a hundred has the moral power to govern in this way. Many govern by a sort of personal fear with which they inspire their pupils. Said the father of a lawless boy to such a one : " If my son feared the

Almighty God one-half as much as he does you, I should have no anxiety for him in this world, or the world that is to come." The teacher considered it a high compliment. It was a compliment to his success ; but there is success that is failure, wretched failure.

I know a noted disciplinarian. He is at heart an arrant coward, as all bullies are, but his scholars seem to fear nothing so much as his displeasure. They prevaricate, and cheat, and lie to any extent whatever, in order to keep a fair face with him. He has quite a reputation as a successful teacher. His method of discipline is held up as quite marvellous ; but I believe he is doing more harm than good. I had rather, a thousand times, a child of mine should be honest and upright, and get what knowledge he can by his wits, than breathe the tainted moral atmosphere of such a school.

Yet many teachers govern in this way—perhaps all do, to a certain extent.

"Look out ! you'll get caught !" is heard oftener in my school than "It isn't fair ! it isn't right ! it's cheating !"

It does not answer to put scholars upon their honor, then blindfold your own eyes, and trust them. I tried it once—when I knew a great deal more than I do now—and made a signal failure. One has to work with both levers, the fear of God and the fear of man. We often strain and tug at the weakest and poorest of these because it is visible,—forgetful of the invisible, which is infinitely stronger and more far-reaching. In nine cases out of ten, I pursue any method that quickly and efficaciously meets the case in hand ; and my fine ideas do little except make me uncomfortable that I can not live up to them.

My pupils only get a smattering of their various studies. Very few of them ever thoroughly investigate any subject. It is a mournful fact that the rising generation are not troubled with hungerings and thirstings after knowledge. I sometimes think my scholars use more of their native wits in devising means not to learn, than they do in learning. To be sure, it is creditable to read, and write, and spell your own language correctly ; and desirable, in a business point of view, to understand interest ; besides, there exists a general prejudice in favor of well-educated people. But beyond this, they do not see that learning adds any thing of beauty, or grace, or power to life. "What's the use?" cries a wide-awake fellow. "There's old Professor Graybeard, he meditates in Sanscrit, and wouldn't dream in any thing less than Greek-hexameter—and I wouldn't be him for a fortune !"

The worst of it is, I have some misgivings of the sort myself. It is said that "Knowledge is power." I have written it in copy-books, and parsed it, and printed it on school banners ; but my belief in it quakes sometimes. At least I know that I succeed in teaching my pupils but little of that available knowledge which is truly power.

## PROFESSOR BARTH, THE AFRICAN EXPLORER.

IN the excellent necrology of eminent instructors, contained in the January number of the EDUCATIONAL MONTHLY, I failed to notice the name of Prof. Henry Barth, who has spent the last years of his life as a teacher in the University of Berlin. As I had the pleasure of knowing him, I cannot deny myself the privilege of devoting a few words to the memory of his career. His reputation belongs to the world as much as to the country whose language he spoke, and in no land have his African travels been read with more interest than in our own. Though he accompanied an English expedition, and was, in fact, the only one who was spared to return, yet the English have failed to be just to him; and the nation whom he so faithfully served, and of which he deserved so well, has been strangely reluctant to do him suitable honor. But his works have been placed in all our large libraries, and his adventurous courage and heroic spirit have been admired by thousands of our youth, and been reflected in our American character.

Barth died on the twenty-ninth of November last, at the age of forty-four years. He brought from Africa no trace of fever, or of any other physical weakness, except a slight liability to dyspepsia, and at the last interview which I had with him before his death he told me that he was perfectly well. His countenance, too, confirmed the same story, and no one would imagine that that bronzed, thick-set, well-conditioned man had endured five years of exposure to the climate of Africa, and three years of equal strain and toil in his memorable journey around the Mediterranean. At the time when he was taken away he had not attained to the fulness of his fame, although he would never have undertaken again a task so full of peril and adventure as that which he brought to a successful termination in 1855. There were two things in which Barth specially excelled: one was in aptitude for scientific travel, and the other was a capacity to pursue philological studies. By nature he was bold, venturesome, ambitious, and a true explorer; but he was no naturalist. He was an antiquarian, an ethnographer, and a philologist; he knew little of geology, botany, or astronomy. The consequence was, that his travels furnished him with materials which it would require almost a lifetime to work up and make presentable to the world; and the latest years of his career have been spent in the preparation of a comparative grammar of eight of the African languages which he acquired while in that continent. His philological talents were of the highest order. He acquired our language, for example, so thoroughly, that he wrote the English edition with his own hand, and without the help of a translator—a feat of the highest difficulty. He was thoroughly acquainted with the Latin and Greek, and could easily have discharged the duties of a professorship in either one of them. He

was acquainted with Turkish, and with both dialects of Arabic—that spoken in Syria, and that in Egypt and the Barbary States. French he knew, as a matter of course, nor was he ignorant of Spanish and Italian. In his University days in Berlin, there were two professors whose lectures he frequented with equal love and zeal, Böckh, the great philologist, and Ritter, the great geographer. Their enthusiasm stirred him, and the departments of study which they represented touched a responsive chord in his nature. Barth never had that mellowness and geniality which made those men, one of whom yet outlives his pupil, so loved; he was far more ungracious and forbidding, but he possessed qualities which were so genuine, so manly, and so noble, that few who have known him well have failed to find much in him to admire.

Comparatively few in America or in Europe have heard much of Barth's first exploring expedition, which he took alone, and at his own cost, amounting to 14,000 thalers, or about \$11,000. While a student at Berlin he made a tour to Italy, and there he conceived the thought, whose first suggestion he probably owed to the teachings of Carl Ritter, of carefully examining the whole of the Mediterranean coast, tracing the sites of extinct Roman and Carthaginian cities, and exhuming the ruins of their old civilization. Three years were spent after that Italian tour in preparing himself for this great task. At length, in 1846, he left Germany, and passed through England, France, and Spain, and then set foot on the African shore at Tangier, where his true journey of exploration began. He examined the coast of Morocco as carefully as possible, recrossed the Straits, landing at Alicante, whence he sailed for Algiers. He penetrated into the interior of Algeria as far as was practicable, and journeyed westward along the coast as far as Oran, and eastward as far as the Tunisian frontier. Tunis he examined with great care, visiting the ruins of Carthage and Utica, and then going along the coast of the Minor Syrtis as far as Tripoli. Still eastward his course led him; he passed on through Barca and Cyrena, and was on the high land which rises west of Egypt when he was attacked by hostile Bedonias and robbed of every thing which he had with him, excepting a portion of the clothing which he wore and his copy of Herodotus. Worn out, destitute, friendless, he rallied sufficiently to get to Alexandria, but his notes, drawings, and all the little mementoes of his eleven months of travel were gone. Happily he had a memory of singular retentiveness, and he had, moreover, written full accounts of his expedition in his letters to his brother-in-law, Captain Von Schubert, of Dresden. From the data furnished by those, he was enabled to gather up enough to make his subsequent work not destitute of scientific worth; and after his return he published in German his "*Wanderings through the African Countries Bordering on the Mediterranean.*"

After resting at Alexandria and receiving supplies of money from his father, a wealthy Hamburg tradesman, Barth prosecuted his journey,

passing up the Nile as far as Assuan, then across the country to the Red Sea. He then crossed the Gulf of Suez in a boat, spent a few hours on the Sinaitic Peninsula at the harbor of Tor, and then returned to Cairo. He then took the usual route across the desert to Gaza, spent a month in this place, examining its antiquities thoroughly, crossed and recrossed Palestine, plunging into all kinds of out-of-the-way places, exploring dangerous ravines, looking down into the perilous and almost untraversed Ghor, tracing the sites of the great Philistine and Phœnician cities, and throwing much new light upon the geography and antiquities of Palestine. It is true he had to glean after Robinson and other great explorers; but he was so thoroughly equipped for his journey, his judgment was so cool, his enthusiasm so subdued, that he is one of the best of authorities as to the topography of the Holy Land.

After passing through Syria he entered Asia Minor, and pursued, often amid great perils, his adventurous journey. All the centres of civilization in that once-peopled land were visited by him, their ruins measured, and all the indications of ancient manners and habits traced and recorded. Thus he passed on, visiting Constantinople, passing through Turkey, and at last reaching Hamburg, after an absence of three years.

It was reserved for the last years of his life to witness the fulfilment of his cherished plan of exploring the Mediterranean coast. Since his great African tour of 1850-55 was brought to an end, he had spent many summers in Italy, Greece, and Turkey. The very latest months of his life were passed in Albania, although he died in Berlin. The November number of the *Geographical Journal*, which he edited in part, contains some account of his last tour. The December number recorded the statement of his death.

Of Barth's second and greatest journey, that made to Central Africa, little need be said. His own account has been too largely read to need more than an allusion now. He has given an account, tediously minute and prolix indeed, but not wholly destitute of interest, and thousands have followed his steps from Tripoli across the Sahara, through the kingdoms of Ar, Bornu, Bagertmi, and Adamana; have viewed with him the course of the Benue on its journey westward to the Niger, and have lingered with him through those tedious and yet exciting nine months at Timbuctoo, where his life was not safe day nor night. The deaths of Richardson and of Overweg will be recalled by all, the sorrowful solitude of Barth as he pursued his way, broken in health and spirits, and with the fact ever before his eyes, that, if he escaped from Africa alive, he would be the first, out of sixty-seven explorers, who had not fallen a victim to violence or disease. Unskilled as he was in the arts of style, and destitute of those powers of imagination which invest the writings of Du Chailly with a large portion of their interest, Barth has not gained the audience which has waited upon the lightest words of more captivating writers; but no

one has followed his adventurous course without a good measure of sympathy and interest.

The African journey gave him material for the rest of his life. The years immediately succeeding his return were spent in the preparation of the English and German editions of his work, which was in five large octavo volumes. Then followed a period of patient waiting, during which he was not idle indeed, although he had no official appointment; and then came his acceptance of a call to an extraordinary professorship at Berlin. This he accepted in 1862, and during the last three years of his life he lectured on geographical subjects in the University, and labored on his *African Grammar*—a work which he left incomplete at the time of his death. As a teacher he was not remarkable. He lacked the enthusiasm needful to awaken the interest of young men: and although he was a great worker, and, as President of the Geographical Society of Berlin, was brought into constant contact with men of even higher rank than himself in the scientific world, yet he never gained that recognition in Germany which we gave him in the United States; still, he was a man whom those who knew him will hold in the highest esteem.

My own acquaintance with Barth began in the winter of 1859–1860. He was then residing in Berlin, and was waiting, not without a certain degree of impatience, for the world to offer him a place to labor. England had forgotten, in a great measure, her obligations to him; and Germany was not sufficiently proud of the honor of claiming him as her son. I always found him approachable and kindly. He was noted for his extreme reserve, but from all that I learn, this did not manifest itself markedly in his intercourse with Americans. During the last years of his life he acquired an unenviable reputation not only for taciturnity, but for roughness and suspiciousness; but those who knew him best, such as Koser, and Petermann, and Dove, and Ehrenberg, loved him, and extol him as they might a brother.

Barth's life must be regarded both as a success and as a failure. Although he added much to the sum of our knowledge regarding both the Mediterranean coasts and the interior of Africa, yet the amount is most disproportionate to the cost of time and money. In Africa he did little more than to revisit scenes which had been discovered before him; and a Dane had fully explored Carthage and Utica twelve years before Barth set his foot within their ruins. So, too, hardly had he left the valley of the Benue when an English expedition nearly reached the point where Barth stood when he looked proudly out over the river and its fertile shores. His comparative grammar of the African languages has been left incomplete. As a teacher at Berlin, Barth stood so conspicuously inferior to Ritter, as not to be judged even with ordinary fairness. And yet a life so brave, so heroic, so sustained, is not a failure, and he has gone to a grave, not mourned indeed as many are, but leaving behind a record sin-

gularly pure. When he had to strike at fraud, meanness, and chicanery in science, he struck hard and fearlessly, and gained as many enemies as friends. He was a blunt man, taciturn, and yet free with his pen, and not seldom bitter. But when he was in this vein, it was on occasions which demanded bitterness, and Barth often had to be the executioner of charlatans and impostors, particularly in the African field. Yet he loved his friends with true, unswerving affection. His virtues were all of the manly sort, and meannesses he had none. That he lacked a genial, winning, gentle nature could be affirmed by all who knew him : but he had in its stead, boundless moral courage, great sincerity, sensibility, firmness, and loyalty to friendship. In person he was neither short nor tall, but rather the former than the latter ; he was stout and firmly built, with square, well-moulded shoulders, and with the carriage of a gentleman. A genuine German in his love of study, in his style, and in his modes of thought, he was English in his bearing ; and as he cultivated the art of dressing well, and in good taste, he did not look like a German professor. He had a deep brown eye, a fine, noble forehead, thick, dark hair, and a speaking, intelligent countenance. No one could converse with him and forget the interview, for Barth's face, though not handsome, was so lighted with thought, that one might seek its like in vain among ten thousand:

The last time of his appearance in general society was at the house of Ambassador Governor Wright, a few days before his death. No one who saw him there will forget his cordiality and the happiness which Barth took on that occasion. As a general thing he was not willing to go into society, but with Americans he felt himself at home.

The grave has closed upon him at the age of forty-four ; his earthly work is ended, and nothing remains but to gather up the memorials of his active, earnest, truthful life.

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At a late sitting of the Paris Academy of Sciences, a letter was received from M. de Baer, of St. Petersburg, announcing that a mammoth, still covered with its skin and hair, had been discovered in the frozen soil of Arctic Siberia. This discovery was made in 1864, by a Samoyede, in the environs of Taz Bay, the eastern branch of the Gulf of Obi. The news only reached St. Petersburg towards the end of 1865 ; but as the bodies of large animals will keep a long while in those regions, if they are not completely uncovered, and as this mammoth was still inclosed in the frozen soil, the Academy of St. Petersburg has, with the aid of the Russian Government, sent M. Schmidt, a distinguished palæontologist, to examine the animal and its position in the locality. It is hoped that M. Schmidt will arrive before the decomposition is far advanced, so that a correct knowledge may be obtained of the outer appearance of the animal, and also, from the contents of the stomach, of its natural food.



## THE "ETA PI SOCIETY."—A DIALOGUE.

## CHARACTERS:

PERCY JOHNSON, *a good scholar.*CHARLIE SCOTT, *a smart boy.*WILLIE WHITE, *a small boy.*GEORGE LEE,  
HENRY ROGERS, } *classmates of Johnson.*MR. HUNTER, *teacher.*SCENE—*The Playroom of the Linden Grammar-school.**Present—SCOTT, ROGERS, LEE, and WHITE.**Rogers.* I say, boys, what did Johnson want us all to stop for, to-night?*Scott.* Oh, most likely he has found some yard and a half long example in "Partial Payments," which he thinks will be *very interesting* for us all to try this evening. Be sure you all have your slates and pencils ready.*R.* I'm off, then. I thought there was some fun on hand.

[Enter PERCY JOHNSON.]

*Percy.* Don't go yet, Henry; there is some fun on hand. What do you say, boys, to forming a society among ourselves, a *secret society*?*S.* I'm in for it.*Rogers and Lee.* So am I.*Willie White.* What is a *secret society*?*L.* Why, don't you know? they all wear badges.*R.* Yes, and they have secret signs that nobody else understands, like the Free Masons, and they never tell anybody their secrets.*S.* Good reason why; they don't know any.*L.* Oh, they do. My father is a Free Mason, and he always looks as if he knew something.*S.* That must be where his son gets his brilliant expression.*L.* I'll give you a "brilliant expression," Charlie Scott, if you don't hold up.*J.* Come, come, boys; we haven't any time for that sort of play. If you're in favor of having a society, the first thing to do is to organize.*W.* Shall we have badges, Percy?*J.* Yes; pins, I think, with the initials of the society engraved on them.*S.* Will you have the kindness to inform your humble servant what the initials of the society might be?*J.* Well, I suppose we ought to choose a name for the society; and the fun is in having a name that will not denote the character of the society; and so some secret societies, especially in colleges, have taken two or three Greek letters for their names.*L.* Is that what they do it for? I always wondered. Cousin James used belong to the "Alpha Delta Phi Society," when he was in college.

R. But I don't see how we are going to have any Greek letters ; we don't know any thing about Greek.

J. (*producing a book.*) But I have an old Greek grammar that I found at home the other day, in which all the letters are spelled out in English. (*LEE and SCOTT advance and look over the book, which PERCY opens.*)

L. But how shall we know how to pronounce them, any way ?

S. Oh, take some that are easy. Here's one, Pi. Pi couldn't spell any thing else.

J. And here's another, Eta. Let's have it the "Eta Pi Society."

S. No ; the "Pi Eta Society," and then we shall all be *pie-eaters*.

J. I think "Eta Pi Society" would sound better.

L. So do I.

J. All in favor of having the society called "The Eta Pi Society" may signify it by saying "Ay."

*All except Scott.* Ay !

J. All opposed, by saying "No."

S. No, sir !

R. Charlie wants to be a "pie-eater."

L. He's that safe enough already, when he can get any pie to eat.

J. Now, let's form our constitution.

W. Our what ?

J. Our constitution. The Society must have a constitution and "by-laws."

S. I propose for a *buy* law, that the society buy their pie at Brooks's bakery.

R. Keep still, Charlie Scott.

J. That motion is out of order ! Will any one propose a *by-law*, such as societies generally have ?

L. My sister is president of a secret society at boarding-school, and I saw a list of their "by-laws" once, and this was one : "Every member of the society shall introduce every other member of the society to all her gentlemen friends in the city."

J. Oh, fudge ! That's a girl's secret society. We don't want any such nonsense.

[*Enter MR. HUNTER.*]

Mr. H. Why, boys ! Haven't you gone yet ? It is nearly five.

W. We stopped to form a secret society.

S. Yes, sir, the "Eta Pi Society" has had the honor of being formed this afternoon.

Mr. H. You have had a hand in this, Percy ; haven't you ?

J. Yes, sir. Do you think it very foolish ?

Mr. H. By no means. I think it a very good thing for you to start

the society, and I hope you will make it a good thing to belong to it. What do you propose to do as a society?

*S.* Eat a pie, sir.

*J.* We have not decided yet what to do. I don't believe we would all agree to have it entirely a *literary society*; but wouldn't it be a good thing to be connected in this way, even if it is not a literary society?

*Mr. H.* Very good, indeed. One of the best things about any society is the promotion and cultivation of a brotherly feeling. But another and better characteristic consists in making the standard of admission and membership so high, that it is really an honor to belong to it. I could wish the "Eta Pi Society" nothing better than that refinement of manners, superiority of scholarship, and integrity of morals should ever be synonymous with membership.

*W.* I move that Mr. Hunter be our president.

*S.* I second that motion.

*J.* The motion is made and seconded that—

*Mr. H.* Hold, boys. Not so fast. Allow me to decline your kindness; and, while I shall always hold myself ready to be of service to you, especially in the matter of organizing, I think you will enjoy your society more, and it will be better for you to depend entirely on yourselves. How often do you propose to meet?

*J.* Every week.

*R. and L.* Every week!

*W.* I don't believe I can come, if it's in the evening.

*S.* Oh, he can't go out nights; can he, poor dear! The apron-strings are not quite long enough. (*He pats Willie on the shoulder.*)

*W.* Let me alone, Charlie Scott. I'm not tied to my mother's apron-strings any more than you, only I don't twitch them so hard; and, besides, my mother doesn't wear strings to her apron, she wears a hook and button.

*S. (holding his sides.)* Oh, me! Does she hook the button, or button the hook?

*Mr. H.* After the "Eta Pi Society" is formed, I shall not expect to hear such remarks from you, Charlie. You know what I think of boys who feel too big to mind their mothers, and not big enough to despise plaguing little boys.

*J.* But do you think we have a nice name for our society?

*Mr. H.* Yes. The name alone means nothing; but in connection with the society, you can make it mean a great deal. Allow me to ask you to hold your next meeting at my house, a week from to-night, and, meanwhile, let each draw up such "by-laws" as he thinks would be appropriate to the society. They will be all the better for a week's thought. And now, good-night, and a long life to the "Eta Pi Society!"

*All.* Good-night, sir!

*S.* Ne'er a pie!

## A BUREAU OF EDUCATION.\*

AT the opening of the present session of Congress, there seemed a prospect of a great advance toward an effective educational system in this country. It had been perceived that the returning South was utterly destitute of public schools, and indifferent, if not averse, to their introduction; that in the North, no State out of New England had a school-system which is not disgraceful when compared with our progress in other directions; that incompetent or underpaid teachers and school-officers, lax attendance of pupils, a prevailing indifference to the whole subject of popular education, together with the inadequate appropriations by the legislatures, had shown the necessity of a fundamental change. A national educational convention, held last winter to consider the subject, determined to appeal to the assistance of Congress; and early in the session a bill was introduced for the establishment of a Bureau of Education. Unfortunately, the inability of that body to realize the importance of any question not connected with reconstruction, has prevented any further attention to a measure of not inferior moment to our national prosperity than the status of the negro or of the Southern States.

The educational convention, which first gave the measure a practical shape, seems to us to have taken a singularly narrow view of the matter. Constituted, as it largely was, of normal-school principals, it was a not unnatural display of egotism that it should favor a plan designed only to enlarge the number and revenues of normal schools. It did not quite ignore the needs of education, but it appeared never to have considered that a system of schools to be supported by the government ought to yield it in return much more immediate advantages than those which must follow the general elevation of popular intelligence. If government is to provide for the education of the masses, its policy should embrace not only the promotion of education, but its own economical and efficient administration. That these two ends should be accomplished by the same means is, we think, not only feasible, but peremptorily demanded by the exigencies of the times.

On the one hand, we have languishing, neglected, ill-officered public schools—except where we have none at all; and the result is, that we fail to secure that degree of popular intelligence requisite to a successful republican government. On the other, we have an army and navy officered by men educated at great public expense, but selected by a system of favoritism which pays no regard to their fitness for such positions; we have the offices in the gift of the government filled by those who lay claim to no experience or qualifications for their duties, whose appointment is determined by merely political considerations, and who are ousted

\* Round Table, May 12th.

to make room for new incumbents just as they become qualified to fill their posts. It has long been obvious that the whole plan of rotation in office was productive of corruption, venality, and all the dangers which most threaten republics.

Both of these evils ought to be abolished by a national Bureau of Education. It should establish schools, whenever needed, and, by enforcing attendance upon them, render practicable the "intelligence test" of suffrage. It should provide that these schools shall be the only roads to government patronage; that diligence and talent displayed in them shall be rewarded by permanent situations under the government; that in accordance with the bent of a boy's genius, he shall be promoted to West Point or to Annapolis, to post-office or custom-house, to diplomatic corps or professorship in the government schools. Such means, it is obvious, must both raise the standard of the schools, and secure the country a corps of officers of guaranteed capacity and integrity, while delivering it from the strongest incentives to political corruption.

Such a system of education should by no means be limited to the lower grades of schools. A large part of their pupils, it is true, would be promoted, as we have indicated, to the military or naval academies, or to the offices of the departments; their female graduates would be competent to fill positions for which only woman's education, not her ability, disqualifies her. But there are many whose talents lie in other directions, and whose culture would amply repay the government for the expense it involved. For such there ought to be provided scholarships in our best colleges and professional schools, until, as in due time would undoubtedly be the case, the government school-system embraced all that was necessary to education, from the lowest primary school to the highest university.

Such an institution, beneficent alike to the people and the government, and thoroughly in accord with our ideal republicanism, could, we believe, be maintained at a cost little greater than that of the wretched district schools which cover the country. When the saving that must result from the conduct of government business by faithful and well-trained officers is also taken into account, its true economy is obvious. The present condition of education is lamentable; that of the public service and national officers is such as to fill thoughtful men with the gravest apprehensions. The present term of Congress may be too near its close to allow the revival of the bill, but it ought to be one of the first measures passed at its next sitting.

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WE may silently observe things we need not speak of; in this way we learn many a profitable lesson without the cost of imprudence.

## AMERICAN EDUCATIONAL MONTHLY.

JULY, 1866.

## VACATION DUTY.—A SCHOOL-BOOK BUREAU NEEDED.

AS the school-year approaches its end, pleasant anticipations of the vacation are duly mingled with plans for the campaign which sets in after the summer holidays. Of course, there is much castle-building ; and some profit, too, from the exercise.\* Many plans assume no definite shape, yet they are not without value. While we do not believe teachers should have "school on the brain" during vacation, yet it must be confessed that certain matters can be better attended to during vacation than in session time.

We have specially in mind the selection of text-books for use during the next school-year. That this is no easy task, we are prepared to admit. Why it is difficult, we can not fully discuss in this place. One reason is the number of pretentious school-books, prepared by incompetent persons, and pushed into the market by enterprising, ignorant, and unscrupulous publishers. Some time we shall expose some of the tricks practised to secure the use of such books. The lack of merit in most of our American school-books, to say nothing of the grossly inaccurate statements which abound in nine-tenths of even "the most approved," renders a wise selection most arduous. Few teachers have the time to carefully examine all which are claimed to be really excellent. Besides, it can not be expected that any one teacher shall be thoroughly qualified to discriminate between the truth and error, which are too often mingled in almost equal proportion. What we really need is a National School-book Bureau. This should be presided over by nine incorruptible, thoroughly educated, discriminating, experienced teachers, aided by competent assistants. All should be far removed from the influences of compilers and publishers of school-books. Upon the merits and demerits of every school-book published they should prepare an elaborate report. This report should be printed and sent to every teacher at the expense of the general government. This Bureau we hope to see established.

Meanwhile, however, teachers must go on, and do the best they can under the existing circumstances. Why not, then, devote this summer's

vacation to the study of text-books? After the vacation it will be too late; for your classes will then be ready and waiting, and you would be obliged to go on with the old books, unsatisfactory as they are.

The vacation affords ample opportunity to read and examine the books, and to compare experiences and ideas with your associates in the field. By all means read and examine the books without regard to "recommendations and testimonials." These are commonly written by interested persons. Do not put trust in the "highly complimentary notices" which appear "in the papers." Even the well-sung praises of some of the educational journals are not very reliable. In fact, there is no really standard authority upon whose judgments and decisions the teacher can rely in selecting his text-books. He must study and examine for himself. He can easily determine how far the statements of the books are facts, by referring to the standard authorities.

Having determined what books are best, use them for the coming year, in spite of persuasive opposing efforts. Do not make any unnecessary changes in session time. Rather correct the books already in use. Teachers who will make intelligent decisions about text-books during the vacation will be prepared for much greater usefulness during the next school-year.

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#### BUSINESS COLLEGES.

**T**HERE is hardly a city or town in the land that has not one or more institutions for the initiation of young men into the mysteries of business. They are called "colleges," and are usually very liberally patronized. Every possible means is adopted to tempt young men thither. Lists of names are supplied by postmasters; and ever after, until they respond favorably, or beg to be let alone, they are plied with every possible device of advertisement, prospectus, and promise of business positions. The most common argument employed is, that a degree from a business college will greatly facilitate entrance into business life. This is generally the strongest appeal, and from every part of the country flow into the "business colleges" crowds of young men. One institution—perhaps the most successful of the kind—has an average attendance of twelve hundred students. Papers are published, setting forth the untold advantages of this department of education, popular lecturers and bands of music are employed to lend *éclat* to the matter; and in a few weeks after appearing in the magic circle, a young man carries off the wand of universal knowledge that is to turn thereafter all things to gold.

So far as they go, we believe these institutions to be of some value. But most young men will do better to apply themselves to general study until they are ready to commence active business. The more time spent in study, the better. In these days, thorough business accomplishments

are only attained by thorough education. Nor is the education of the business colleges greatly considered by business men in employing clerks and assistants, while a general education and general information are counted as of the greatest value. In fact, the graduate of a business college is at a disadvantage in this city, so great is the prejudice against a system necessarily arbitrary and superficial. The fact is, this smattering of practical knowledge is very apt to induce airs and conceits which business men can not brook. A young man must be willing to commence at the bottom, learning the business principles and habits of his employer. His degree from a "college" will aid him but little; and if it leads him to pretensions and arrogance, it is very likely to work to his injury.

Thus flippantly does our clever neighbor, the *Round Table*, dispose of an entire class of schools, because of the shortcomings and abuses of a few individuals of the class. Suppose some pretenders have intruded themselves into the management of business colleges, what has that to do with the merits of the system? If there are pernicious weekly papers, and indifferent educational journals, should the *Round Table*, and the AMERICAN EDUCATIONAL MONTHLY, on that account be condemned?

We can not understand how the *Round Table* could be betrayed into calling the "system necessarily arbitrary and superficial." That some of the so-called business colleges are superficial is too true; but the system is not necessarily superficial. As we understand it, the business colleges do not pretend to afford facilities for acquiring a "general education," any more than the agricultural colleges pretend to cultivate Greek roots.

We should examine into the claims and purposes of the business colleges, rather than pass hasty judgment upon them from a knowledge of "one which has an average attendance of twelve hundred students." These schools claim to instruct mainly in the elementary mathematics, as applied to business calculations, penmanship, book-keeping, and business forms and customs. The student should have the groundwork of a good general education before he resorts to the business college, just as is required before entering our normal, law, medical, or theological schools. If the student has this thorough education, and is possessed of good common sense, he can profitably spend a few months at a good business college, before entering into business. But if he lack proper education and good common sense, of course he will assume "airs and conceits which business men can not brook." No school can be held responsible for the lack of early fundamental training, and the deficient supply of brains, in those who may chance to resort to them for instruction.



## EDITORIAL CORRESPONDENCE.

HONOLULU, Hawaiian Islands, March 19, 1866.

**MR. EDITOR**—So long accustomed to titbits of battles lost and won, of whole armies served up for breakfast, only to prepare the appetite for a still stronger meal at noon, how do you Yankees manage to come down to plain diet of the humdrum affairs of social and business life, spiced with a few steamboat explosions or railroad collisions, and an occasional suicide or highway robbery? I suppose you hardly deign even to notice the little *olla podrida*, down in Mexico, which that inexperienced cook, Max., is trying to render palatable with such savory compounds as Belgian beer and Limberg cheese, Austrian krout, and frogs, fresh caught and kicking, just from the Seine. Nor do I suppose that this new Chilian stew, seasoned with its Castilian garlic, possesses any charms for stomachs so long accustomed to domestic grape and canister, bomb-shells and swamp-angels.

Have you the least idea, therefore, my dear Monthly, that any one of your 100,000 readers can cease thinking of those glorious days of Shiloh and Vicksburg long enough to read an article on—

## THE EDUCATION OF THE SANDWICH ISLANDERS?

The Hawaiian Islands, consisting of a group of seven larger islands and a few barren reefs of no importance, were first visited by Capt. Cook, in the year 1769, and were called by him the "Sandwich Islands," in honor of his friend and patron the Earl of Sandwich. Ten years later he sailed hither again, and, while stopping at Ke-alé-ke-kúa bay, he had the audacity to seize the king and attempt to carry him on board his ship as a hostage for the return of a boat stolen by the natives. In this attempt he lost his life, and no one can say that he did not richly merit the fate which befell him. And here permit me to correct an error so common with writers upon these islands. The natives of this group were *never* cannibals, and Capt. Cook was *not* devoured by *Queen Emma*, our present king, nor any of their ancestors. His bones, deprived of flesh, were sent around to the different tribes and were worshiped as gods. His heart, however, was eaten by a common native through mistake; he supposing it to be the heart of a dog which he had killed the day before.

From this time there was but little intercourse between these islands and the civilized world till the arrival of the American missionaries in 1820. These first missionaries were soon re-enforced by others, who brought with them, not only Bibles and other religious books, but physicians, printers, and teachers. Books were soon multiplied in the Hawaiian tongue, and the work of teaching and civilization commenced. I do not propose to describe the trials and privations of these pioneer philanthropists, nor to write the history of the gradual development of the system of education which the stranger finds here to-day, for your space would not admit, however patient your readers might be; but permit me to offer a few facts, as a grand sum-total of educational results for the last forty years here in these islands. To you it may seem incredible, but it is nevertheless a fact, that a smaller percentage of our native population can neither read nor write than in the United States—the land of newspapers and free-schools. Not only have we schools accessible to all, and *free*, but parents are obliged,

by law, to send their children to some school from five to fifteen years of age.

The common schools are taught mostly by natives. The studies pursued are spelling, reading, writing, arithmetic, and geography; and the teachers receive from ten to fifteen dollars a month.

Of these native schools there were in the year 1862, on all the islands, 241. The number of scholars in attendance, during that year, was 7,868; of which 4,433 were males.

The whole amount of money raised for school purposes was about \$30,000; while that expended for teachers' wages was \$20,557. The number of schools and pupils have remained about the same during the past three years, while the receipts and expenditures have greatly increased. In every school district a man is appointed and paid by the government, whose duty it is to see that every child is in school at the proper time. Over these *urchin gatherers*, called *lunas*, and over the district teachers, are placed "school agents," corresponding to "town superintendents" in your rural districts; and over all these, an "inspector-general," corresponding to your "State superintendent," exercises control.

The present incumbent of this office is Hon. A. Fornander, who has already done much in producing order from confusion, and in perfecting the present admirable system of education, by which the native youth are fast approaching the scholarly attainments of those frequenting the schools and colleges of more favored lands. He is a thorough-going, energetic, and live man—in short, the right man in the right place.

The Board of Education consists of the cabinet ministers of the king, presided over by the king's father, Kekuanana, and although this department affords no pecuniary compensation, they are alive to the interests of the nation. They not only provide ample funds for paying teachers and school-officers, and for purchasing apparatus and erecting school buildings, but they give their personal attention to the development of plans and the carrying out of their requirements.

Besides these native common schools, we have several high-schools and seminaries, which are supported wholly or in part by funds furnished directly from government. Among these, the "Seminary for Young Men," at Lahainaluna, deserves special attention. This institution was founded in 1831 by Rev. Lorin Andrews, under the auspices of the American Board of Foreign Church Missions. It possesses a respectable library and apparatus, and a large tract of land, the cultivation of which enables the students to defray their expenses of board and tuition, and to lay up small sums for incidentals. A few years since the American Board conveyed this whole property to the Hawaiian government, reserving only a voice in deciding upon religious tenets to be inculcated there. All the expenses of this institution are now borne by government. The number of pupils in attendance during the past year has been about one hundred. The course of study embraces a period of four years, and includes a tolerable knowledge of mental, moral, and natural philosophy, chemistry, algebra, geometry, trigonometry, and conic sections, together with rhetoric, composition, and declamation; all, however, in the Hawaiian language.

The Principal of this institution is Rev. S. E. Bishop, a graduate of Amherst College, who receives a salary of \$1,450 and house-rent. His

first assistant is Rev. C. B. Andrews, a graduate of the Miami (Ohio) University, whose salary is \$1,400 and house-rent.

The college at Punahow, Oahu, for both sexes, founded by Rev. Daniel Dole in 1841, under the auspices of the American Board, has exerted an influence for good in these islands that cannot be estimated; not only in supplying native and foreign teachers for our common and high schools, and in affording facilities for all to acquire a liberal and polished education, but it has sent no inconsiderable number of teachers and missionaries to other parts of the earth needing their services. The buildings are ample and commodious, and well furnished. The college possesses a fine cabinet and a liberal supply of apparatus. The course of study embraces all that is usually taught in the best ladies' seminaries of the States, while young men are thoroughly prepared to enter the different classes in any of the Eastern colleges.

Students here are taught in English, although the Hawaiian is pursued as a study. About seventy-five students have been in attendance here during the past year. This college is supported by endowments from the American Board and the Hawaiian Government, and by a charge for tuition. The expense for board and tuition is about \$24 a month, besides a few extras. W. P. Alexander, A. M., a graduate of Yale College, is president. He receives a salary of \$1,400 and house-rent.

His first assistant is E. P. Church, A. M., a graduate of Oberlin College, Ohio, who, with his wife, also a teacher, receives a salary of \$1,200 and board and house-rent. Mr. Church has but recently arrived from the States, and we consider him and his lady a great acquisition to both our social and educational interests.

The Royal High School of Honolulu, founded by A. S. Cooke, in 1840, has exerted a peculiar influence, not only on account of the large numbers of thorough scholars it has sent out, but as being the school in which the present king and most of the royal family, as well as other chiefs, received their education. The main edifice, built of the native reef-coral, is a fine and imposing structure, and is intended to accommodate about one hundred and fifty pupils. The primary department is taught in a neat wooden building, which has accommodation for about seventy-five pupils.

Both of these buildings are well adapted to the purposes for which they were erected, being airy, well arranged, and supplied with improved furniture and all apparatus considered necessary in a modern school. A spring, in the mountain adjacent, supplies an abundance of excellent water for the extensive grounds, in which a large variety of shade-trees and shrubbery has been planted. The gymnastic apparatus of the playgrounds also shows that the physical culture of our young men is not neglected. During the past year about two hundred pupils have attended this school. The studies pursued in the higher department embrace all the branches of a common and higher English education, including the natural and moral sciences and higher mathematics. The students are charged a nominal tuition of five dollars a year, and the school is open to all young men, both native and foreign. This school is owned and supported entirely by government. J. R. Kinney, A. M., a graduate of Union College, N. Y., is principal. His salary is \$1,800 a year. He is assisted by three ladies, one educated in the States, one at Punahow, and the other at the Royal School.

Corresponding with this school, at present only for boys, the government has recently established a day-school in another part of town, in which young ladies are taught not only the common branches of an English education, but the arts of domestic life; as practised in other countries. About one hundred pupils attend this school, of which two teachers have charge, with salaries of \$500 and \$600 respectively. One is an American and the other an English lady.

Besides these, there are schools at Hilo, Hawaii, at Lahaina and Makawao, Maui, at Hanalei, Kauai, and at different places on Oahu and Molokai, in which the common and higher branches are taught, both in native and English. They are supported wholly or in part by government. At the various schools of this class there have been in attendance, during the past year, from 500 to 800 pupils, male and female. In addition to all these schools there are numerous other sectarian and private schools, for both foreign and native pupils, sustained by private benevolence, or by a direct charge for board, tuition, etc. These schools are all in the hands of gentlemen and ladies of education, experience, and refinement, and as a result of their years of faithful labor we have Hawaiians fitted for almost any station in social and civil life; ministers, lawyers, and legislators, whose talents and attainments would do honor to any land.

KEKUMU HAOLI.

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SARATOGA, New York, May, 1864.

**MR. EDITOR**—Saratoga is world-wide renowned for its mineral springs; the oldest and most interesting of which is the one called "High Rock," the present property of Messrs. Ainsworth and McCaffrey. This spring has never been tubed, its flow having always been natural. At present, however, its owners are preparing to tube it, and in doing so have made some interesting discoveries that may throw additional light on the "antiquity of man." It is well known that the High Rock Spring has deposited for centuries the minerals held in solution, forming at its mouth a somewhat conical-shaped rock, about four feet high and five feet in diameter at its base. This rock has a hole at its apex six inches across, from which the water flowed in years ago, but in later years it has found an outlet beneath the surface of the rock. In preparing to tube the spring the cone was removed; the rock immediately below it, and of the same formation, being quite disintegrating and opposing no obstacle to its removal. Directly under this was a white mineral deposit, much resembling slaked lime, and extending to the depth of about eight feet. Immediately beneath this white soft deposit were found four logs with their ends placed upon each other, forming a nearly square curb around the spring. Two of them were about eight feet long, the other two somewhat shorter. They were found to be pine, and were ten or twelve inches in diameter. Underlying these was a quantity of pine brush, on which the logs were, with design, placed. Next below came several feet of soil, and at the depth of about twenty feet from the surface the solid lime-rock, at which is the mouth proper of the spring. From the dirt removed, many curiosities, such as dippers and Indian arrows, were taken.

That these logs were placed there by human hands there can be no reasonable doubt. The question of interest, then, is *when* were they placed there? We know that centuries ago, far beyond the reach of Indian tradition, this continent was inhabited by tribes whose numbers and power are easily shown to have been considerable. Did such a people remove this "High Rock," remove the hundreds of loads of deposit below it, place the brush and logs as they were recently found, scatter their implements among the accumulated earth, and then replace all as it was in the beginning? This supposition is untenable. The cone was never before removed. All this deposit has been made since the logs were placed there. Then comes the important question, how much time has elapsed since this curb was made? Nearly three hundred years ago the "High Rock" was in size, apparently, the same as to-day. Now, if two hundred and fifty years have made so little change as to be hardly discernible, what time must have elapsed while the cone was forming? and what, while the softer parts below it, and the powdered, white mineral immediately overlaying the logs, were accumulating? This question can never be definitely answered, yet the time may be approximately known by a few years' observations. The spring is to be tubed, so that the water shall again flow through the "rock" and drip over its surface. By measuring the thickness of the deposit made on this cone for, say, twenty years, some estimate can be made of the time occupied in the entire formation. Such observations will doubtless be made.

Dr. J. L. Perry, Messrs. Hall, Weatherwax, and many others were present when the logs were removed, and it is the belief of some present that the *front* log, which was in a tolerable state of preservation, was *hewn* on its front face.

H. T. HICKOK.

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## SCIENCE AND THE ARTS.

THE Academy of Sciences (Paris) has received from M. Duchartre a highly interesting communication on certain well-known plants called creepers, because their stalks, too weak to sustain themselves, tend to twine round the nearest objects. They generally do this from left to right—that is, opposed to the motion of the sun; but some species turn in the contrary direction, and it is impossible to make either one or the other change its direction. Palm, Von Mohl, Dutrochet, and Charles Darwin have successively expressed the opinion that light is the cause of this tendency; but experimental proof being wanting, Duchartre, who had discovered that the Chinese yam could live a long time in the dark, resolved to test the theory with it. At the end of May he placed one in a pot, and as soon as it showed its stem above-ground he took it down to a cellar where it remained in complete darkness until the 2d of August. The stem in seven weeks grew about five feet (one meter and a half). It looked withered and white, but was strong and perfectly straight, showing nowhere a tendency to twine itself round the stick, which had been placed there for its support. Another yam was planted nearly a month later, and left exposed to daylight until it had turned

itself twice round its stick. It was then placed in the cellar, where its stem, still obeying its natural tendency, went round once more, but in a more vertical direction than before; after which, it grew straight up along the pole to which it was fastened as it grew. It was now again taken into the garden, where it immediately began to twine round again, making five close turns; and when it was once more taken into the cellar, it continued its growth again in a straight line; and so on, according as it was alternately in the light or in the dark. The same phenomenon was observed also in the *Mandevillea suaveolens*; but on the other hand, the bean and the *Ipomea purpurea* continue to twine round their supports in the dark.

—In a memoir read before the National Academy of Sciences, Professor H. A. Newton shows that the number of shooting-stars visible at any one time over the whole earth is 10,460 times the number visible at any one place. The whole number of meteoroids visible to the telescope, which enter the earth's atmosphere daily, he estimates at 400,000,000. The mean distance of the meteor parts varies between 140 and 232 kilometers. Professor Newton calculates that in the space which the earth traverses, there are as many as 13,000 small bodies in every volume of space the size of the earth; each of these, such as would furnish a shooting-star visible to the naked eye. If telescopic meteors be counted, this number would be increased at least forty-fold. The Professor does not regard these as the fragments of former worlds, but rather as the materials out of which worlds are forming.

—It has been estimated that the ocean contains 160,000 cubic miles of magnesium, a quantity which would cover the entire surface of the globe, both sea and land, to a thickness of more than eight feet. In obtaining salt from sea-water, the residuum is largely magnesium. It constitutes 13 per cent. of magnesian limestone, a rock found in all parts of the world in enormous quantities. Four years ago, all the chemists who had obtained it probably did not possess an ounce among them. Two years ago, its price was 112 guineas per pound. Now, owing to improvements recently introduced, magnesium wire is sold at three pence per foot. It has been suggested that when it becomes cheaper, vessels of war should be built of it; for while it is but little heavier than "heart of oak," it is as strong and tenacious as steel.

—Excellent results are obtained in the economical use of coal as fuel by feeding the fire from below, and thus burning the fuel from the surface downward, instead of from below upward, as usual. The air admitted is heated somewhat by the lower strata of fuel, before it comes into contact with the hot coals, which assists in a very marked manner the complete combustion of the carbon. In a puddling-furnace, which had consumed 41 cwt. of fuel, only 20 pounds of unburned residue was found. The modifications necessary to carry out this improvement under boilers are few and inexpensive, and the results are so good that at the Gartness Works, near Glasgow (Scotland), the weekly returns show a saving of one-third.

—Rev. Frederic Gardiner, by inserting a line of stakes in the ice across the Kennebec River, in the early part of February, found, in the middle of March, that there had been an expansion of the ice of over 12 feet in a breadth of 500 feet. As during this time the temperature of

the water was nearly equal, the expansion must have been due to the sun's rays, which was proved by the fact that there was the least expansion on the eastern side, where the ice was partially shielded from the sun by a high bank.

—Pharaoh's Serpents have been succeeded by a new scientific sensation, *Zauber Photographien*, or Magic Photographs. These are sold in two envelopes: the first contains pieces of white albumenized paper; the other, slips of white blotting-paper of a corresponding size. One of the former is moistened with water, and a piece of paper from the other envelope, likewise wet, is laid thereon, when a beautiful photograph is instantly developed on its albumenized surface. Photographs have, of course, been printed in the usual manner on the albumenized slips, and then decolorized with bromic or iodic acid; the other pieces of paper have been soaked in hyposulphite of soda, and the application of this reducing agent to the hidden photograph brings it to view.

—The *Scientific American* thus explains the "spiritual photographs," which a few years ago caused so much discussion. Photographers are acquainted with three or four different ways in which secondary images may appear in photographs. In the first place, when a sensitive glass plate has served its turn as a negative, the film of collodion is removed from it, and it may then be used for a new photograph. But it is found that unless extreme care be used some faint traces of the former picture will remain, and these may appear as a sort of ghostly attendant upon the figure forming the second picture. One photographer, in endeavoring to utilize an old plate, which had done its duty as a negative of the late Prince Consort, could not wholly erase the image; wash or rub as he might, there was always a faint ghost of the prince accompanying any subsequent photograph taken on the same plate. Dr. Phipson relates that a friend of his received at Brussels a box of glass plates, quite new and highly polished, each wrapped in a piece of the *Independance Belge* newspaper. A lady sat for her photograph taken on one of these plates, and both the photographers and the lady were astonished to see that her likeness was covered with printed characters, easily to be read—in fact, the ghost of a political article. In this case, the actinic rays had done their work before the glass was exposed in the camera. By another mode of manipulation, a photographer may produce a ghost-like effect at pleasure. A sitter is allowed to remain in the focus of the camera only half the time necessary to produce a complete photograph. He slips quietly aside, and the furniture immediately behind is then exposed to the light; as a consequence a faint or imperfectly developed photograph of the man appears, transparent or translucent, for the furniture is visible apparently through his body or head. Referring to this mode, Professor J. W. Draper, of the New York University, some time ago gave as his belief, that the day is not far distant when even the walls of our houses will give out impressions of things done. Then the things done in secret will be proclaimed upon the house-top.

—The vexed question respecting the nature and properties of ozone is likely to be settled. The Paris Academy of Sciences have appointed a committee, consisting of MM. Chevreul, Dumas, Pelouze, Fenillet, Le Verrier, Becquerel, and Boussingault, to examine and report whether ozone exists in the atmosphere, and whether the so-called ozonometric papers of Schönbein indicate the presence of electrified oxygen.

## EDUCATIONAL INTELLIGENCE.

## NEW ENGLAND.

**MAINE.**—Boston friends of Bates College, at Lewiston, promise \$50,000 for the permanent fund of the college, if \$20,000 more be raised for the endowment, and \$10,000 for buildings.

—More than \$18,000 have been subscribed for the erection of the Memorial Hall at Bowdoin College.

**VERMONT.**—At a late meeting of the trustees of Norwich University, Captain Shattuck, the president *pro tempore* of the institution, proposed to raise \$100,000 in behalf of the university. The board voted that the amount be raised, and that immediate action be taken in the matter.

—The committee appointed to examine the subscription to Middlebury College announce that over \$80,000 have been secured. A gentleman, already a subscriber, offers to add \$10,000 to increase it to \$100,000, and \$10,000 more to make it \$140,000.

**MASSACHUSETTS.**—The Theological Seminary at Andover has received, through the agency of Professor Mead, now in Berlin, the valuable library of the late Professor Niedner, the eminent successor of Neander in the chair of ecclesiastical history. The library contains some 4,000 volumes, and cost about \$2,500.

—The people of Andover have voted to erect a building for a high-school. Sums amounting to \$15,000 have been given for that purpose by two gentlemen, and the town has added sufficient to make up \$22,000.

—The property left by the late Sylvanus Packard, of Boston, to Tufts College, at Medford, consists chiefly of real estate, and will probably amount to \$800,000.

## MIDDLE STATES.

**NEW YORK.**—The third anniversary of "The University Convocation of the State of New York" will be held at the capitol, in the city of Albany, on Tuesday, the 7th day of August next. The membership, as originally constituted, includes: 1. The members of the board of regents; 2. All instructors in colleges, academies, normal schools, and the higher departments of public schools, which are subject to the visitation of the regents; 3. The president, first vice-president, and the recording and corresponding secretaries of the New York State Teachers' Association. The officers of the convocation are a president and secretary, being respectively the chancellor and secretary of the board of regents, *ex officio*, and an executive committee of seven

members appointed by the chancellor. The objects of the convocation, as declared at its organization, are the following: 1. To secure a better acquaintance among those engaged in the higher departments of instruction, both with each other and with the regents; 2. To secure an interchange of opinions on the best methods of instruction in both colleges and academies; and as a consequence, 3. To advance the standard of education throughout the State; 4. To adopt such common rules as may seem best fitted to promote the harmonious working of the State system of education; 5. To consult and co-operate with the regents in devising and executing such plans of education as the advancing state of the population may demand; 6. To exert a direct influence upon the people and the legislature of the State, personally, and through the press, to secure such an appreciation of a thorough system of education, together with such pecuniary aid and legislative enactments, as will place the institutions here represented in a position worthy of the population and resources of the State.

—The Hon. Benjamin Chamberlain, of Randolph, has given, as a centenary offering, \$50,000 for the endowment of Randolph Academy. He had previously given liberally to Genesee and Alleghany colleges.

—Mr. Robert, a wealthy merchant of New York city, has purchased a tract of land on Lookout Mountain, the scene of Hooker's famous battle in the clouds. Here he has founded a boarding-school of the New England stamp.

—A project is on foot among the Scandinavian Methodists to establish a school in which their young men may be trained not only in their own language, but also to study in our language the Arminian theology. Some of the Scandinavians of New York city are making liberal offers for this purpose.

**NEW JERSEY.**—By the provisions of Sec. 12 of the "Act to establish public schools," approved April 17, 1846, certain schools, under the care of religious societies, or denominations of Christians, were entitled to receive "just and ratable proportions of the money assigned to the townships in which they are located, out of the income of the school-fund, and of such additional sum as may be raised or apportioned by said townships for the support of the public schools." During the last week of its session, the legislature passed a bill repealing this section of the act.

—According to the report of the trustees of Princeton Seminary, that corporation



owns real estate to the value of \$118,410, and personal estate valued at \$816,982.80. In addition, there are funds invested by the General Assembly (O. S.) for its support. From these, in 1885, it derived an income of \$6,158.41. The total expenses for 1885 were \$24,219.25. The library contains 19,717 volumes.

**PENNSYLVANIA.**—Alleghany College, at Meadville, is not likely to derive any advantage from Judge Culver's liberal donations. This gentleman gave the institution real estate, and erected thereon a college building costing \$50,000; but he neglected to transfer the title, and the property now appears among his assets. What makes the matter worse is that the corporation, grateful for his generosity, invested in one of Mr. Culver's banks to the extent of \$30,000, which will probably prove a total loss.

—Mr. Pardee, a successful coal merchant in the Lehigh region, has given \$100,000 to Lafayette College, at Easton.

#### WESTERN STATES.

**OHIO.**—John B. Kesler has just secured \$15,000 to the Ohio Wesleyan University. John R. Wright, of Cincinnati, proposes to give \$10,000, provided the friends of the institution will complete the proposition made two years ago by Mr. Thomas Parrott, of Dayton, who bequeathed \$20,000 on condition that \$150,000 should be added to the endowments. About \$49,000 had been raised. These gifts increase it to \$74,000.

**MISSOURI.**—On page 29 of the record kept by the school commissioner of Coles county for the year 1880, which record is now in the office of the county clerk, appears the following entry: "December 8, 1880.—Revoked the certificate of A. Fitchel for the following reasons (in substance), to wit: Because he voted for Abraham Lincoln for the Presidency in 1860, and circulated Black Republican campaign documents; also wrote and put up notices advising the Germans to vote for Lincoln for the Presidency; also for being a Black Republican generally, and therefore immoral, and unfit to teach the schools of the county."

**TENNESSEE.**—In this State, the Freedmen's Aid Commissions support 19 schools with 52 teachers and 3,060 pupils. There are also 13 denominational schools, with 42 teachers and 2,835 pupils. Besides these, there are 8 schools supported entirely by the freedmen. These have 14 teachers and 950 pupils. These latter schools are very liberally sustained by the freedmen. In eight months, the tuition collected at Memphis amounted to more than \$4,500.

**KENTUCKY.**—In this State there are 8 schools for freedmen, with 28 teachers and 1,335 pupils.

**CALIFORNIA.**—The new school-law establishes a State Board of Education, and defines clearly the duty of the superintendent. It requires every teacher to attend the teachers' institutes, which must be held at least once a year. Trustees must not only allow teachers to attend, but may make no deduction of salary for consequent absence. Each county must give \$100 towards defraying the expenses of the institute. None but white children may be admitted to the public schools; but if the parents of ten Negro or Mongolian children sign a request, the trustees of the district must establish a separate school for their instruction. The law provides for the establishment of a State Normal School at San Francisco, and appropriates \$8,000 per annum for its support. It makes provision for district libraries, for the support of a State educational journal, and for the establishment of State, county, and city boards of examination. The law is an excellent one, and California equals the Eastern States in educational enterprise.

#### SOUTHERN STATES.

During last year, the American Freedmen's Commission sustained 307 schools, with 778 teachers and 40,000 pupils. The contributions exceeded \$700,000. Of the schools, directly or indirectly connected with the Commission, South Carolina has 129; Virginia, 104; North Carolina, 80; Tennessee, 65; Maryland, 61; Mississippi, 20; and Arkansas only 10. As it is a fundamental principle of the Freedmen's Aid Commission, that no one may be excluded from these schools on account of his color, it offers its privileges not only to the blacks but to the poor whites, who certainly are in need of enlightenment.

**MARYLAND.**—In 1829 the Public School system was organized in Baltimore with three schools. By the end of last year the number of schools had grown to 88; the number of teachers, to 360; and the number of pupils to 16,489. The real estate is valued at \$482,669.88½. The total receipts last year were \$282,274.31, and the expenditures \$281,503.60. The salaries paid to teachers in Baltimore are scandalously small. The principal of the High School receives \$1,800 and the professors 1,400. Male Grammar School principals receive \$1,800, and those of Female Grammar Schools only \$700. Under such circumstances, it is strange that Baltimore has any first-class teachers at all.

**GEORGIA.**—The free schools for poor whites opened at Atlanta by E. B. Adams, agent of the A. U. C., of Pennsylvania, are

crowded with pupils. Many leave private schools and join them.

**LOUISIANA.**—The collection of the tax on the white residents for the benefit of the colored schools has been a second time stopped by order of President Johnson.

**MISSISSIPPI.**—The accredited correspondent of the *Nation* says that the 70 teachers in the colored schools are required to report monthly to the Freedman's Bureau the number of pupils of mixed blood under their care. In twelve schools there are returned 287 children of pure African blood, and 777 of mixed blood.

### FOREIGN.

**ENGLAND.**—After much opposition the Cambridge examinations have been regularly established, apparently with the best results. The last report of the syndicate of Cambridge University on the local examinations held throughout the country during the past winter, shows that the girls have not only proved themselves superior in the points in which it was certain they would do better than the boys, but that in mathematics also they have gained great credit. The general style of their papers was decidedly better than what the boys produced, and their answers were more to the point, with far fewer attempts at fine writing than their male competitors indulge in. Ten girls out of twelve passed a creditable examination in Latin, being especially distinguished for accuracy and good taste in translation. One hundred and twenty-six girls were examined, and the examiners gave reports which seem to answer some of the chief objections against the examinations for girls, stating no undue excitement was manifest nor any signs of weariness toward the close.

—The *University* (Oxford) *Calendar* for 1866 justifies the demand for further accommodation for students in the University. It shows the names of 1,796 undergraduates against 1,589 in 1865. The matriculations have increased from 438 in 1862 to 524 in 1865. The colleges at which the increase among undergraduates has been greatest are Worcester and Christ's Church; three, All Souls', Balliol, and Exeter, are stationary; only six show any falling off.

—The Senate of the University of Cambridge has declined Mr. Yates Thompson's offer to endow a lectureship on American History in that University, shackled as it was with the appointment being in the patronage of American professors.

—It is said that in Manchester and its suburbs there are 50,000 children who receive no instruction whatever.

—At Midsummer last an educational census was taken of 30,000 petty officers, men

and boys serving in her Majesty's fleet. It was found that of the petty officers 16 per cent. could read only indifferently, and more than 5 per cent. could not read at all; 28 per cent. could write only indifferently, and 7 per cent. could not write at all. Of the seamen, 28 per cent. read poorly, and 11 per cent. could not read; 38 per cent. wrote indifferently, 14 per cent. could not write at all. Of the marines, 28 per cent. could not read, and 27 per cent. could not write. Of the boys, 2 per cent. could neither read nor write. In the British army 63.67 per cent. are able to read and write.

—The parliamentary grant for education for the year is £894,530 for Great Britain, and £236,180 for Ireland. The expenditure in England for 1865 was £360,686 on schools connected with the Church of England, £59,771 on schools of the British and Foreign School Society, £28,156 on Wesleyan schools, and £26,930 on Roman Catholic schools. The estimate for England and Wales for the financial year 1866-7 is, for 916,722 day scholars at 9s. 1d. each, and 50,000 night scholars at 6s. The number of teachers serving in aided schools during 1865-6 was, in England, 9,586 certified teachers, 887 assistants, and 9,356 pupil teachers. The number of elementary day-schools visited by the inspectors was 8,434, attended by 1,246,054 children, an increase of 112,764 over the preceding year.

—At the late examination for admission to the normal schools, 521 male and 785 female candidates were passed.

**IRELAND.**—The Protestant University of Dublin owns landed property to the extent of 189,573 acres, valued at £22,360.

**FRANCE.**—There exists in Paris a society called "*Comité des écoles Israélites de l'Orient et du Maroc*," whose object is to co-operate with the Hebrew consistories in France and England in establishing schools for Jews in the Barbary States, Egypt, and the Turkish empire. The *Comité* chooses teachers, prescribes the method of instruction, and forwards to each school the text-books employed in the elementary schools of France. At Tangiers the boys' school already numbers 400 pupils, and at Tetuan a school for girls is carried on in connection with one for boys. Schools have been founded at Volo in Turkey in Europe, at Smyrna, Damascus, and Bagdad. Some have been established in Constantinople, and a large number in Egypt.

—A society has just been formed in Paris with the view of providing for the old age of female teachers who possess a government diploma, without, however, having claim to a government pension. Besides being lodged gratuitously, these teachers will be allowed board also, or \$100 a year in lieu of it; and if they prefer living with their own friends, they will still enjoy their pension of \$100 a year.

The minimum annual subscription of honorary members is \$2.50.

—There are now 20,000 adult classes in France, against 7,855 in the winter of 1864-5. Prizes are given by the government to such teachers as signalize themselves most in the management of these classes.

**GERMANY.**—The government of Mecklenburg-Schwerin proposes to abolish the University of Rostock, because of the small attendance of students, and to adopt the University of Gottingen instead, which is already the national university, not only for Hanover, in which it is situated, but also for Brunswick and Oldenburg, and the free cities, Hamburg, Bremen, and Lubeck.

**SWITZERLAND.**—The scholastic authorities of Lausanne have unanimously adopted the following resolutions in order to settle religious difficulties: 1. That religious instruction be confined to the historical facts related in the Bible. 2. That a summary of Bible History, and a collection of extracts from the Bible, and of sacred poetry, be introduced into the elementary schools. 3. That the catechism be excluded, as no longer meeting the religious wants of the scholars.

**ITALY.**—A map has just been published by the Italian government, showing the degree of public instruction in each province by colors, as was done about thirty years ago by Dupin in France. The result shows that the education of the people is more and more imperfect towards the south. The district most advanced is Turin, where, in a population of a thousand, there are four hundred and eighty-nine persons unable to read or write. In Lower Calabria we find the worst proportion, there being here, out of a thousand, nine hundred and twenty-seven; in Sicily and Sardinia the proportion exceeds nine hundred; and in Florence it is seven hundred and fifty-seven.

—Libraries are springing up in all parts of the country, and the number is now 210, of which 164 are open to the public. These libraries contain 4,149,287 volumes. Emilia possesses more than one-fourth, Lombardy has 800,000, Tuscany 600,000. The Abruzzi and Basilicata are the poorest. The total income of these libraries is 746,317 francs, of which 87,770fr. are derived from endowments belonging to the institutions; 486,986fr. are from government grants, 94,404fr. communal grants, 8,238fr. provincial grants.

**GREECE.**—The National University has eleven hundred students.

**RUSSIA.**—In a letter addressed to Prince Dolgorouki, Governor-General of Moscow, the Grand Duchess Helena recommends the construction in that city of a superior

school of music on the model of the Conservatoire of St. Petersburg. Her project has received the emperor's sanction.

**SYRIA.**—The American missionaries have established at Beyrout a girls' boarding-school under the care of natives educated at the mission stations. The funds for the building, which is in process of erection upon land belonging to the mission, were raised in New York, and the missionaries are to act as trustees of the school. But the most important educational enterprise in Syria is the college which is about to be established in Beyrout. As it does not come within the scope of a missionary society to found colleges, the American missionaries, feeling the absolute necessity for such an institution in Syria, set apart one of their number, the Rev. Dr. Bliss, to raise the necessary funds and take charge of the institution. It is a striking evidence of the life and vitality of our country, that he succeeded in raising a permanent fund of \$100,000 for this purpose in America, in the midst of the war, which has been increased by \$20,000 raised in England. The institution is incorporated in the State of New York, and the trustees are among the wealthiest merchants of New York city. A movement has been inaugurated by wealthy gentlemen in England to endow several professorships in this institution, on condition that one-half the necessary endowment of each professorship be raised in America. The plan of the college makes it really a university. There is a preparatory department already in most successful operation, with 150 students, under the direction of Mr. Butrus Bistany, formerly United States Vice-Consul, and one of the best educated natives in Syria. It is hoped that the college and the medical department may be opened during the coming autumn. The college will undoubtedly find plenty of students from the preparatory department and the native schools, while the medical department is certain to be the most popular, as it must be the most immediately useful branch of the institution. The language of the college is to be the Arabic, and it will thus be at once open to the whole population of Syria and Egypt. Indeed, it is estimated that there are 150,000,000 of the human race who speak Arabic, and this will be the only institution of the kind open to those speaking this language.

**JAPAN.**—The English language has been officially adopted by the government, and permission has been given to have it taught publicly.

**CUBA.**—Havana letters say that a Cuban gentleman, named Francisco San de Juan, who died recently, left his entire estate, valued at \$400,000, to a Spanish female school, with a provision in his will that if the Spanish Government shall in any man-

ner interfere with the legacy, it shall revert to the United States.

**SANDWICH ISLANDS.**—A high-school for foreign pupils has recently been established in Honolulu by M. B. Beckwith, A.M., late Principal of the Royal School. It commenced under the most favorable auspices, and with the experience and well-known ability of Mr. Beckwith it can not be otherwise than a success.

—J. R. Kinney, formerly of Chambersburg, Pa., and more recently Principal of San José (Cal.) Institute, has accepted from the Hawaiian government the appointment of Principal of the Royal School at Honolulu.

**LIBERIA.**—Since this republic was founded, two hundred schools have been founded. Most of these are now in operation, and the number of pupils is nearly 20,000.

### CURRENT PUBLICATIONS.

IT is most refreshing to find a new and original text-book. For this favor we are indebted to Prof. Fischer, of Rutgers College. We believe that Prof. Fischer is not yet popularly known in this country, though a few of our best American scholars, who are well qualified to judge, recognise him as the best Latin scholar in America, and quite the equal of the best scholars of Germany, his native country. He began his philological studies under the masters of the palmy days of Gottingen. In addition to his natural ability and genius, he has a pure Latin style, simple, but rich and classical—a gift almost unknown in this country, and rare everywhere.

His book is not molded after the fashion of the scores of Latin grammars which have been attempted. If only its spirit could be adopted, we should behold a new era in classical education. It is a mistaken notion that we have no time to be thorough. We have time enough; but it is frittered away upon an unsystematic and superficial course. While our teachers may deplore these defects, they have not the ability to remedy them. This book will be a guide alike to teacher and scholar.

The author teaches the idiomatic structure and composition of the Latin sentence in the shortest possible time, by a severe and rigorous system, which leaves nothing behind it untouched.

In Latin composition the "Exercises" are most important. In these our popular Latin text-books are most faulty. Prof. Fischer's are not the old "Standard Exercises," which have been handed down through half a dozen generations. They

seem to be new, and they are perfectly classical, thorough, and systematical. We make special mention of the fact that they are *classical*; for certain authors, extensively patronized by the public, profess to take their exercises from classical authors in order to insure their classicity, and yet exhibit a gross lack of classical learning in making the slight alterations necessary to adapt the sentences to use. The exercises in this book are so arranged that each lesson is an exercise on all foregoing rules, thus precluding the possibility of a clever student forgetting what he has before learned. The exercises are so full, too, that a student, under a good teacher, may acquire a positive and thorough knowledge of the language, without learning the rules, by writing the exercises. Thus, he will acquire it by the most *natural* method possible, short of hearing it spoken in the Forum, or at the baths of ancient Rome.

This book is "Part I." for beginners. No pretension is made to preparing Roman "confectionery for children." Nothing is sugar-coated in the "approved style" of some of our book-makers. Yet the exercises are so simple that the youngest may begin with ease and interest. Scholars cannot fail to detect in the book the foundations of a better system for teaching Latin than has hitherto been practised. If Parts II. and III. develop this system as the beginning promises, there will be a most vigorous sifting of the dry bones and fossils of the old methods and systems. The work promises to be a monument of classical learning and a most valuable contribution to classical education.

The mechanical appearance of the book is not quite up to the standard. The wonder is that it is as good as it is; for we un-

1) MANUAL OF LATIN GRAMMAR AND COMPOSITION. Part I. By GUSTAVUS FISCHER, Rutgers College, New Brunswick, N. J.

derstand that the author, without any previous knowledge of the art of printing, has set the type and printed the book himself. The binding is, doubtless, done in some Jersey village. Some enterprising publisher will, doubtless, take hold of the work, and issue it in a style which its great merits richly deserve. For the present, copies may be obtained by addressing the author. The price by mail is \$1.25.

Dr. Livingstone's new work<sup>2</sup> is the narrative of the expedition, undertaken by himself, Chas. Livingstone, Dr. Kirk, and others, up the river Zambesi and its tributaries. These gentlemen left England in March, 1868, and returned in July, 1864, having been completely successful. The primary object of this, as of nearly all British projects, was extension of commerce, although it had indirect reference to the suppression of the slave-trade. The country was, therefore, explored with a view rather to geography than ethnology.

Among the most important discoveries made by this expedition are the lakes Shirwa and Nyassa. The latter is at the head of the river Shire, a leading tributary of the Zambesi, and was discovered in September, 1869. Its southern end is in S. lat.  $14^{\circ} 25'$ , and E. long.  $85^{\circ} 30'$ . It is about two hundred miles long; in width it varies from six to sixty miles, and in depth from two to one hundred and twenty fathoms. Being inclosed by highlands, it is visited by severe storms, and in the rainy season rises three feet. It is thirteen hundred feet above the sea-level, and the population on its shores is denser than any previously seen in Africa by Dr. Livingstone. Lake Shirwa is situated not far from the Shire river, but evidently has no outlet, as its waters are brackish, tasting like a weak solution of Epsom salts. It is eighteen hundred feet above the sea; is sixty miles long, and twenty miles broad. The Shire was found to be navigable throughout from Lake Nyassa to its junction with the Zambesi, excepting a distance of thirty-five miles, where it is obstructed by a series of cataracts, named by the explorers in honor of Sir Roderick Murchison.

On the Zambesi, about eleven hundred miles from its mouth, are the Victoria Falls, which were discovered in August, 1860. These have been formed by a crack right across the river, eighteen hundred and sixty yards long, eighty yards wide, and three hundred and sixty feet deep to the surface of the water. Into this chasm, twice the depth of Niagara Falls, the river, a full mile wide, falls with a deafening roar. The outlet is a chasm at right angles to the crack which causes the falls. This is not more than twenty or thirty yards wide, but must be of immense depth, as the river flows easily through it. At the falls, "the whole body of water rolls clear over, quite unbroken; but after a descent of ten or more feet, the entire mass suddenly becomes like a huge sheet of driven snow. Pieces of water leap off it in the form of comets with tails streaming behind, till the whole snowy sheet becomes myriads of rushing, leaping, aqueous comets." \* \* \* The vast body of water, separating in the comet-like forms described, necessarily incloses in its descent a large volume of air, which, forced into the cleft to an unknown depth, rebounds and rushes up, loaded with vapor, to form the three or even six columns, as of steam, visible at the Batoka village, Moachemba, twenty-one miles distant."

The only obstruction in the river Zambesi, from the Victoria Falls down, are the Kehrabasa Rapids, which are impassable at ordinary low-water. In the neighborhood of these rapids Dr. Livingstone found huge baobab trees, some of which were eighty-four feet in diameter. The Doctor denies the great age of these trees, and asserts that, although he has examined hundreds of specimens, and counted the annual rings, he has never found one more than five hundred years old. Possibly he is right; but Adanson, in honor of whom the tree received its specific name, examined quite as many, and states positively that, in a specimen, thirty feet in diameter and seventy-three feet high, he counted five thousand one hundred and fifty annual rings. Botanists must choose between Adanson and Dr. Livingstone.

Throughout the whole course of exploration, the country is exceedingly fertile. Cotton, indigo, tobacco, and the sugarcane grow luxuriantly, and all, except the last, reproduce themselves. Droughts of

<sup>2</sup> NARRATIVE OF AN EXPEDITION TO THE ZAMBESI AND ITS TRIBUTARIES. By DAVID & CHARLES LIVINGSTONE. New York: Harper & Bros. 8vo, pp. 638. \$5.00.

the severest character occur periodically; in some places, every five, in others every ten years. The country is covered with shrubbery, but there is little large timber, except ebony and lignum-vite, which here attain extraordinary size. The great obstacle to commerce is the claim of Portugal to sovereignty. Dr. Livingstone shows that this claim is a mere pretence; for, so far from possessing any authority over the tribes, the Portuguese are really in subjection, paying an annual tribute for the sake of peace. This the Home Government terms "holding the natives in pay." The officials on the coast connive at the slave-trade, and derive large profits from it. The only means of destroying this traffic is to disregard the Portuguese pretensions, and to establish British colonies in the interior, which, the Doctor thinks, would be far more effectual and less expensive than the maintenance of a fleet on the coast.

Dr. Livingstone's work is an invaluable addition to geographical literature. The book contains many illustrations and a map by Arrowmith. We regret that the American publishers saw fit to omit the appendix, to which reference is frequently made in the body of the work.

Mr. Wilson's "Emphatic Diaglott" contains the Greek text of the New Testament, with an interlinear translation and a new rendering printed on the margin. In this marginal reading the more important words are distinguished by emphatic marks. The various disputed verses, such as Acts xiii. 37, and first Epistle of John v. 7, which are now generally believed to be spurious, are omitted, and the reasons for the omission are given in the foot-notes. Certain peculiarities of the new rendering impel us to the belief that, at least some of the divines, who appear to have recommended the work, did so without careful examination. Mr. Wilson invariably translates *deutino*, to immerse; he carefully avoids the term *hell*, leaving the words *Gehenna* and *Hades* untranslated. In the appendix he defends his position in this matter by references to the use of these terms in the Septuagint, where, as he maintains, they never signify a place of punishment. Happily

for himself, the translator not unfrequently discovers that clauses, interfering with his theory, have frequently been disputed. A little further examination might satisfy him that there are few passages of importance which have not been disputed.

On the whole, the translation gives evidence of honesty of purpose. It is careful, and, in the main, accurate. The introductory papers are interesting; the notes on each page are full; and the lists of correlative texts is quite large. It is doubtful, however, whether the work will be of lasting value. To theological students and clergymen, whose knowledge of Greek is limited, it may prove advantageous; but the, perhaps, unintentional partiality and sectarian character of the rendering will, in all probability, cause it to share the fate of most of its predecessors.

The "Lower Depths of the Great American Metropolis" is the title of a popular discourse recently delivered in this city by the Rev. Peter Stryker, D.D. By invitation of one of the Heads of our Metropolitan Police, he, with several friends, made a tour, by night, to the "lower depths" of New York city. He describes<sup>4</sup> this tour in his graceful style, and discourses upon the prevalence of poverty and consequent crime in this overgrown city. The tenement houses he condemns, and suggests a remedy which the wealthy should heed. Our new Excise law he commends in rather handsome terms. Altogether the discourse is able, interesting, and full of information. The subject is worthy of the pen of this much-esteemed and rising young divine, and he has treated it in a style which will be appreciated. The publishers of the *Pulpit and Rostrum* have had the good fortune to secure the original manuscript copy of the discourse, and hence are able to present it to the public as No. 88 of their Pamphlet serial. This brings it within the reach of all.

*Silliman's Journal* for May is filled with valuable and interesting matter. The Scientific Intelligence is unusually full. The number closes the current volume. The *Journal* is published in New Haven, at \$6.00 per annum.

(3) THE EMPHATIC DIAGLOTT. By BENJAMIN WILSON. New York: Fowler & Wells. Small 12mo. pp. 384. \$4.00.

(4) PULPIT AND ROSTRUM, No. 88. Price 15 cts. Schermerhorn, Bancroft & Co., Publishers, 439 Broome Street, New York.

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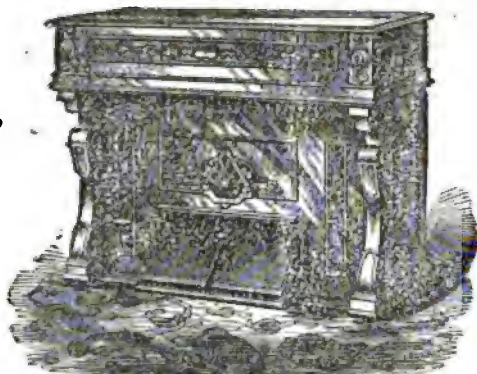
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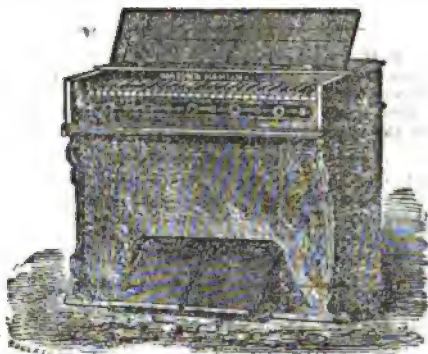
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# AMERICAN Educational Monthly.

DEVOTED TO

Popular Instruction and Literature.

AUGUST, 1866.



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## A TOUR WITH THE POLICE THROUGH THE LOWER DEPTHS OF THE GREAT AMERICAN METROPOLIS.

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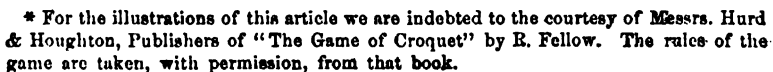
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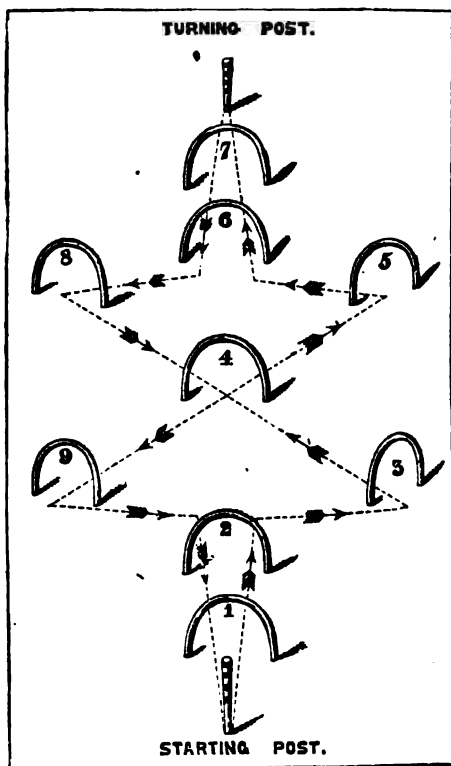
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No. 8.

**T**HERE are so few out-door games in which both ladies and gentlemen can join, that any addition to the number is welcomed by every friend of healthful recreation and social amusement. Probably no game



ever became so suddenly popular as Croquet ; and surely none could more deserve such popularity. Answering as it does every condition and requirement of a social summer game, it is not surprising that it has become a general favorite wherever it has been introduced. Now that



the necessary implements for the game can be obtained at a moderate cost, there is no reason why Croquet should not find a place on every playground and village green.

#### IMPLEMENTS.

The implements required in the game of croquet are balls, mallets, arches, and stakes. The balls are eight in number. They should be perfect spheres, about three inches in diameter and six ounces in weight. Turkey box-wood, owing to its denseness and durability, is perhaps the best material. Of native woods, rock-maple is considered best by some, while others prefer button-wood or American sycamore. The individuality of the balls being an important element in the game, each ball should be dis-



tinguished by a separate color. The best colors are those which are most distinct—namely, black, white, yellowish green, bright blue, brown, pink, scarlet, and yellow.



The mallets, also eight in number, should be in proportion to the weight of the balls. The best material is apple-wood for the heads, and straight-grained ash for the handles. The heads should be cylindrical in shape, about four inches long, and two inches in diameter. The sides of the head may be slightly hollowed, after the fashion of a dice-box. The handle should be perfectly straight, from thirty to thirty-six inches in length, and one inch in diameter at the end, decreasing gradually to the point of insertion in the handle. Each mallet should have a color corresponding with its ball painted on the handle next the head. These colors serve to keep the balls and mallets in pairs, and also for distinguishing the players.

The arches are ten in number. They are best made of three-eighths round iron, and should stand when fixed in the ground about twelve inches high, with a span of from eight to ten inches. The height and width of the arches may be varied according to the dimensions of the field and the skill of the players. It is an advantage to have the arches painted white, so that they may be readily distinguished, especially at night-fall.

The stakes, two in number, should be about two feet high, and of the thickness of the mallet handles. On the upper half of the stakes the eight colors used on the balls should be laid on in rings, in the order mentioned above. These rings show the order of play.

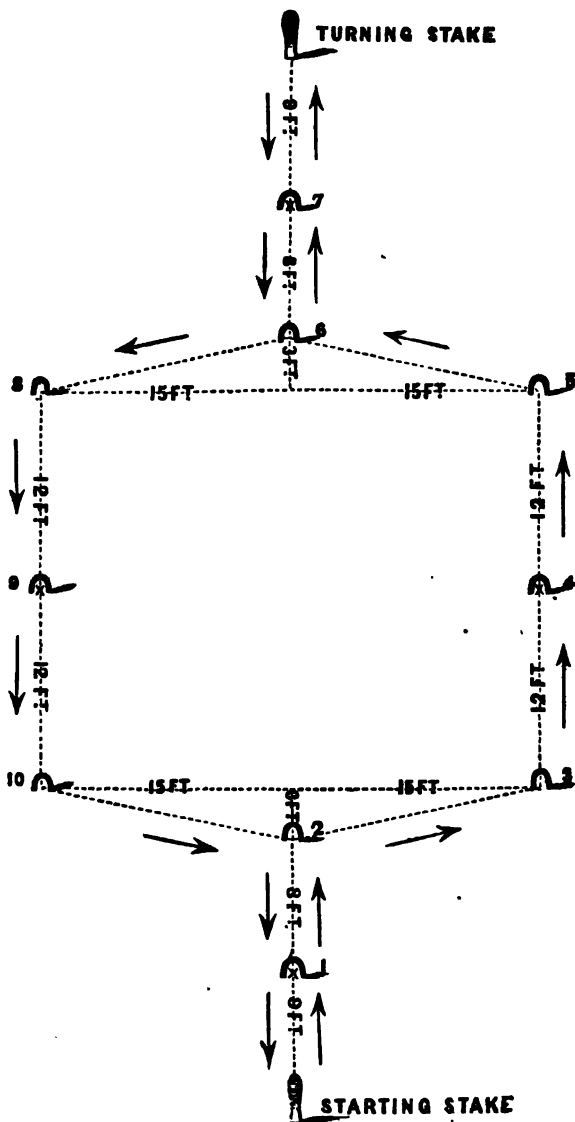
#### THE GAME.

Croquet may be played by any number of persons up to eight. In all cases there must be two sides, or parties, each having the same number of balls. An odd player may be balanced by allowing one on the opposite side to play two balls. With skillful players, six balls, three on a side, make a better game than eight; while many prefer four balls, two on a side, as allowing a quicker and more scientific game.

Two of the party are selected as chiefs, and the sides chosen as in other games. The first choice is usually determined by a trial of skill. Each chief places a ball under the first arch, and plays at



the stake. The one whose ball lies nearest the stake has the first choice. The first chief has black, and his first selection green; the second chief has white, and his first selection blue; and so on. In this way the dark



colors will form one side and the light colors the other; and the play is in the order of the colors on the stakes.

The first player places his ball a mallet's length from the starting stake toward the first arch, and strikes it with his mallet in the direction of that arch. If it passes completely through the arch, he has the right to another blow ; if not, he must wait until his turn comes round again. The succeeding players follow in turn, each playing until he fails to make a point.

The balls are driven through the arches, in order, from 1 to 7; as shown in the diagrams ; then after striking the turning stake through 7, 6, 8, 10, 2, and 1, and go out by striking the starting stake. That side wins, all of whose members succeed in running this round first.

The most common variations in the arrangement of the arches are shown in the accompanying diagrams.

#### DEFINITIONS :

*A Booby.* A ball that fails to run the first arch.

*Concussion.* The displacement of a ball by another ball.

*Croquet.* A privilege gained by making "roquet." The playing ball is placed in contact with, and on any side of, the roqueted ball ; the player holding the former in place with his foot, strikes it with his mallet, thus driving the roqueted ball in any desired direction.

*A Dead Ball.* A rover driven against the starting stake, and thereby struck out of the game.

*A Flinch.* When, in the act of croquet, the playing ball slips from under the foot of the player.

*Point.* Making one or more arches at a stroke ; performing the roquet (except on a booby), the croquet, or the roquet-croquet ; striking the turning stake, together with the combination of any two or more of these.

*Position.* A ball is in position when it lies in front of its proper arch, so that it may be driven through the arch by a single blow of the mallet.

*Ricochet.* Two or more roquets made by a single blow.

*Roquet.* The contact of the playing ball with another ball, under such circumstances as to constitute a point.

*Roquet-Croquet, or Croquet sans pied,* differs from croquet in that the playing ball is not held by the foot, but follows the croqueted ball, or diverges in another direction.

*A Rover.* A ball that has made the round, but has not been struck out.

#### RULES :

I. The game is opened by the chief who has won the first choice of friends.

II. The ball must be placed a mallet's length from the starting stake, on a line drawn to the center of the first arch.

III. The ball must be struck with the face of the mallet-head ; the stroke of the mallet being delivered whenever, touching the ball, it moves it.

IV. The player continues to play so long as he makes a point in the game.

V. The players on the two sides follow the first chief alternately, according to the order of colors upon the starting stake.

1. If any ball is played out of its proper turn, and challenged before the play of another ball has commenced, the misplayed ball may be returned to its original place, or permitted to remain in that to which it has rolled, at the option of the enemy ; and if a ball so misplayed have gained any advantage for itself or its friends, or done any injury to the enemy, the latter duly challenging may strip the misplayed ball of the advantages thus gained, and repair the damages sustained.

2. If the enemy permit the misplay, or there is no challenge, the misplayer cannot use his next turn, since he has anticipated it.

3. A player using a wrong ball must suffer, and not the owner of the ball : hence, if the misplay is discovered before the next turn, the ball must be restored, the consequences removed, and the misplayer deprived of his turn ; if the misplay be not discovered before the next turn, the game proceeds without remedy to either party.

VI. The arches must be passed through in their regular order in the direction of the course.

VII. A ball makes its arch, if it passes through it in regular order, only when it is driven through by a blow from its owner's mallet, or passes through by roquet, croquet, roquet-croquet, or concussion.

1. A ball is through its arch, if the handle of the mallet, when laid across the two piers of the arch upon the side whence the ball came, does not touch the ball.



2. A ball passing through its arch in the wrong direction, and not passing clear through, is not in position to be driven back in the right direction.

VIII. If a ball makes two arches in regular order by a direct blow of

the mallet, it has the right to take ground up to one mallet's length in any direction from the spot where it rested. If it run three arches under the same conditions, it can take ground up to two lengths of a mallet.

[This rule must not be interpreted to conflict with VII.]

IX. Striking the turning stake is in all respects equivalent to making an arch, is subject to the same conditions, and entitled to the same advantages, when these are applicable; but the stake may be struck from any quarter.

X. A ball, after it has completed the round, makes the starting stake either by a blow from its owner's mallet, or by roquet, roquet-croquet, croquet, or concussion. It is then a dead ball, and is removed from the field.

XI. A ball roquets another, whether it proceeds directly by a blow of the mallet or rebounds upon it after the blow, from an arch, a stake, or any other fixed obstacle of the ground, or from another ball.

1. A ball having roqueted, another may strike it again without any intervening play; but the second contact does not constitute a roquet.

2. A ball having made roquet, is at liberty either to make croquet or to proceed on its round.

3. A ball striking another ball, after having croqueted it, and without any intervening play, terminates its tour.

XII. A ball can croquet only that ball on which it has made roquet.

[Hence, a booby cannot croquet or be croqueted.]

1. A player may croquet any number of balls consecutively, but he can not croquet the same ball twice during the same turn, without first sending his own ball through the next arch in order.

2. In making ricochet, the player is at liberty to croquet either the first or all of the balls roqueted, but the order of croquet must be that of the ricochet.

3. A croquet is proved by the stirring of the ball croqueted, provided that the mallet has struck the ball croqueting.

4. If a ball roquet another, and at the same time makes its arch, it may proceed to croquet the roqueted ball, or decline and again roquet upon it before taking the croquet.

5. If a ball flinch in the execution of croquet, the croquet is null, the croqueted ball must be returned to its position, and the croqueting ball proceed with its turn, without the right to repeat the croquet just missed.

XIII. The laws of roquet-croquet are the same as those of croquet.

XIV. A rover may not croquet the same ball twice in one turn.

A croquet or roquet-croquet alone permit the rover to continue his play.

XV. If a ball in its progress over the ground be interrupted by any one, the person playing may allow it to remain where it rested after the interruption, or carry it to the point which he regards as its probable termination.

A ball accidentally displaced must be returned to the place where it was lying, before the play proceeds.

XVI. No play is permitted outside of the boundaries.

A ball driven over the boundary may be brought back to the point where it crossed, when its turn arrives.

XVII. An arch or stake losing its upright position, by any means, must be restored before the game proceeds.

---

## VEGETABLE POISONS.

### THE UPAS.

UPAS, which means "vegetable poison," is applied indiscriminately to several plants of the East Indies. Botanists have given the name to a member of the *Loganiaceæ* or *strychnos* family; but it properly belongs only to one of the *Urticaceæ*, or nettles, the *Antiaris toxicaria*, or *Upas antiar* of Java and the neighboring islands, where the natives call it *Bohun upas*. Perhaps no tree has been more falsely accused than this. The early Dutch travellers, who were for a long time the only authorities respecting the East, told the most fabulous stories of its fatal qualities. M. Foersch, who visited the Indies during the eighteenth century, reported that "sterility prevails for upwards of ten miles around this dreadful tree on the part of the island of Java where it grows. When criminals are sentenced to death, they are offered a free pardon if they consent to seek a small boxful of this valuable yet terrific poison. They are first sent to the dwelling of a priest, who resides at a safe distance from the spot; there they arrive, accompanied by their wailing and disconsolate families. They remain with this holy man a few days, during which he affords them both spiritual comfort and good advice—the latter urging the precaution not to set out until the wind blows in such a direction as to waft from them the floating emanations. On their departure on this dreaded expedition, he gives them a small box of silver or tortoise-shell, covers their heads and faces with a leathern hood with glass eyes, and protects their hands with a pair of thick gloves of the same material. He accompanies them about two miles on their sad journey, and then he describes the hellish spot where this treasure is to be found as minutely as one can describe what he has not seen; then, giving the poor pilgrims his blessing, he departs on his return. This worthy man informed our traveller that, during thirty years while he had held the situation, he had sent off no less than seven hundred criminals, of whom only twenty-two had returned; and he confirmed the statement by exhibiting a list bearing their names and the offenses for which they had been tried." Foersch also asserted that he

witnessed several of these expeditions, and entreated the culprits to bring him some branches of the tree ; but two withered leaves were the only specimens he could obtain from the solitary wretch who had the good fortune to escape, and who described the tree as growing on the border of a rivulet, being of moderate height, and surrounded by a cluster of young ones. The ground around them was of a brown, sandy nature, and strewed with the remains of human victims. He also ascertained that no living creature can exist within fifteen miles of the spot. The streams that flow near it yield no fish, and the birds that fly over it fall to the ground ; several of the latter were occasionally brought to the priest. Among various offenders doomed to death by this poison, he relates the case of thirteen ladies, who, for the crime of infidelity, were inoculated in the bosom with the point of a kritz, or Malayan dagger, dipped in the upas, and in sixteen minutes they had ceased to live.

Notwithstanding the circumstantial character of Foersch's account, it was wholly false. Nolte, a Dutch surgeon, afterwards visited Java, and ascertained that Foersch had never been on the island ; so that his tale must have been based upon the extravagant statements of Cleyer, Spielman, and Rumphius, who had visited the East long before. Some French travellers found that the tree was common in the forests of Java and Borneo, and that the natives did not hesitate to approach it. When Dr. Horsfield desired to procure some of the poison, he found no difficulty in obtaining assistance from the natives, who objected to handling it only because they feared an annoying cutaneous eruption. In Borneo it is collected by hunters in the interior, who preserve it in leaves of the tree. From the researches of Horsfield and Leschenault it appears that the *Upas antiar* grows upwards of one hundred feet high, with cylindrical stem, naked for sixty or seventy feet. From an incision in the bark, near the ground, a bitter white or yellow juice exudes, which, when exposed to the air, concretes into a black resinous mass. This, when mixed with aromatics, forms the poison. The process of preparing it is known to but few, who pretend to much mystery. When prepared, the upas poison is of the consistency of molasses, and is preserved in closed bamboo tubes.

Among the Javanese the upas is employed only in the chase, and, like the curare of South America, it does not injure the flesh of game. The inhabitants of the adjoining islands, however, use it in warfare ; and the early Dutch soldiers were compelled to wear thick leather cuirasses, stuffed with cotton, in defence against the poisoned missiles. The rapidity with which this agent acts is astounding. Dr. Horsfield asserts that it proves fatal to dogs in one hour, to cats in fifteen minutes, to monkeys in seven minutes, and a buffalo was dispatched in two hours. According to the experiments of M. Leschenault, who brought some of the poison to Europe, the effects depend greatly upon the age and size of the animal. One grain and one-half inoculated in a dog killed it in four minutes ; one-

half grain injected into the chest caused death in one minute and one-half ; eight drops injected into the jugular of a horse produced immediate tetanus and instant death.

The upas does not contain strychnia, but Pelletier and Caventon extracted from it a new vegeto-alkali, in which the poisonous properties exist. After death no traces of the poison remain ; the blood-vessels are filled with blackish blood, as after asphyxia. The action is evidently narcotic, death being preceded by absolute nervous prostration. There is, therefore, no positive antidote. The fibre of the upas-tree is excessively irritating, the virus appearing to pervade all parts ; for linen made from the fibres, if not prepared with the utmost care, produces most unpleasant itching.

#### THE CURARE.

Among the Indians of South America several poisons are employed. The *Ticronas* is a mixture of several gums, but its precise composition is concealed, being regarded as a valuable secret. Its powers, like those of the upas, have been greatly exaggerated ; one author having asserted that its odor is sufficient to kill criminals. Of the others, little, is positively known of any except the *woorari* or *curare*, whose properties have been fully investigated. This is obtained from the bark of a liana in Guiana, called by the natives *Vejuco de Mavacure*, which appears to be identical with the *Strychnos toxifera*. The process by which it is separated is thus described by Humboldt :\* "The branches are scraped with a knife, and the bark which comes off is bruised and reduced to very thin filaments. A cold infusion is prepared by pouring water on this fibrous mass, in a funnel made of a plantain-leaf rolled up in the form of a cone, and placed in another somewhat stronger, also made of plantain-leaves, the whole supported by a slight framework. A yellowish fluid filters through the apparatus. It is the venomous liquor ; which, however, only acquires strength when concentrated by evaporation in a large earthen pot. To give it consistence, it is mixed with a glutinous vegetable juice obtained from a tree named *kiracaguera*. At the moment when this addition is made, the fluid now kept in a state of ebullition, the whole blackens and instantly coagulates into a substance resembling tar or thick syrup."

The properties of the *curare* have been carefully investigated by M. Claude Bernard. It does not produce local irritation ; for if a bird be wounded by a small and pointed missile it is unconscious of injury. The effect is rather to paralyze the nerves of motion, without immediately affecting consciousness or sensation. Consciousness does not become extinct even with somatic death. A ligature was so tied on the hind legs of a frog as to cut off the arterial circulation without severing the communication between the nerves and spinal cord. A little poison was inserted under

\* "The Travels and Researches of Alex. Von Humboldt," p. 234. Edinburgh, 1833.



the skin of the back, and the animal was put into a covered vessel containing water. The usual symptoms of paralysis ensued, but the hind legs still gave evidences of life ; and when light was admitted to the vessel, the living legs propelled the lifeless body towards it. A stranger peculiarity is, that somatic death, resulting from administration of the curare, may continue for some time before interstitial death takes place. A young ass, inoculated with the poison, fell apparently dead in ten minutes ; the trachea was opened and artificial breathing was kept up for two hours, when the animal raised its head and looked around. It soon died a second time. Artificial respiration was resumed and sustained for two hours. The poor beast again awoke ; its lungs gradually regained their power, and eventually the full use of its limbs was restored. This experiment was originally performed by Waterton and Brodie, and has since been repeated several times with full success.

Though so fearful a poison when introduced into the blood, the *curare* may be tasted without danger ; it is employed by the natives as a remedy for gastric affections. Minute quantities taken into the stomach cause no ill effect, for the flesh of game slain by poisoned arrows is freely eaten, and fowls are usually killed by scratching them with some poisoned instrument. The action of the *curare* resembles that of the *upas*, but is not so rapid, and tetanic spasms are not produced. Both are powerful sedatives, and appear to produce death by asphyxia. Artificial respiration is therefore recommended by Bernard and Delile as the only means of restoration.

#### THE KOMBI AND UGA.

In Mozambique, near Lake Nyassa, as Dr. Livingstone informs us,\* the natives kill wild animals with arrows or spears dipped in the *kombi*. This is obtained from a species of *strophanthus*, and yields a peculiar vegetable alkali resembling strychnia. Except the elephant and hippopotamus, every animal yields to the effect of the poisoned arrows. Like the substances already noted, this does not affect the flesh of game injuriously, only a small portion about the wound being unfitted for food. The same people employ in warfare another poison called the *uga*, which they procure from the entrails of a caterpillar. It is a most powerful virus, causing immediate delirium and speedy death.

#### ORDEAL POISONS.

From very ancient times there have existed among barbarous nations various methods of direct appeal to the Deity to acquit or convict suspected persons. Prominent among these is the ordeal of drinking poison. According to the old Jewish law, when a woman was accused of infidelity to her husband she was compelled to drink the "bitter waters." If gan-

\* "Expedition to the Zambesi," p. 491. New York.

grene set in, her guilt was decided ; but if no ill effect followed, she was adjudged innocent. Perhaps the most widely celebrated of the ordeal poisons is the *Erythrophlœum guineense* of Sierra Leone and Guinea. The plant is upwards of one hundred feet high, and is called by the natives *Gregre-tree*. The red juice of this plant is the ordeal poison, and is taken in large draughts by the suspected person. If he is sufficiently strong to withstand the poison he is acquitted ; but if not, he is convicted. In the Zambesi country, on the east coast, a similar ordeal is used. The faith of the natives in the efficacy of *mauve*, as they term the poison, is unbounded ; even the chiefs are not exempt from it, and accused persons frequently drink it voluntarily to demonstrate their innocence. Dr. Livingstone\* conceives that the physician who prepares the *mauve* can save those whom he deems innocent. No accurate information respecting the nature of this poison can be obtained, as the people refuse to answer any questions concerning it.

Capt. Harris† states that in Abyssinia a narcotic poison is employed for the detection of thieves. The process, which is rather indirect, is thus described : “ A ring having been formed in the crowded market-place by the spectators, the diviner introduced his accomplice, a stolid-looking lad, who seated himself upon a bullock’s hide with an air of deep resignation. An intoxicating drug was, under many incantations, extracted from a mysterious leathern scrip, and thrown into a horn filled with new milk ; and this potation, aided by several hurried inhalations of a narcotic, had the instantaneous effect of rendering the recipient stupidly frantic. At length, secured by a cord, he dragged his master round and round from street to street, snuffing through the nose like a bear, in the dark recesses of every house. After scraping for a considerable time with his nails under the foundation of a hut, wherein he suspected the delinquent to lurk, the imp entered, sprang upon the back of the proprietor, and became totally insensible. The man was forthwith arraigned before a tribunal of justice ; and although no evidence could be adduced, and he swore repeatedly to his innocence by the life of the king, he was sentenced by the just judges to pay forty pieces of salt, which was exactly double the amount alleged to have been stolen.”

---

SELF-EDUCATION.—Costly apparatus and splendid cabinets have no magical power to make scholars. In all circumstances, as a man is, under God, the master of his own fortune, so is he the maker of his own mind. The Creator has constituted the human intellect that it can grow only by its own action. Every man must, therefore, in an important sense, educate himself. His books and teachers are but helps ; the work is his.

\* Op. Cit., p. 181.

† “ Highlands of Ethiopia,” p. 115. New York.

## THE TEACHER'S PROFESSION.

**T**HAT there are evils and disadvantages attending the teacher's profession, few will deny. There is, pervading the atmosphere of society, a settled contempt for him and his vocation—a feeling which, though unexpressed, is none the less felt and acknowledged. Whence this arises, it is needless to speculate; whether it dates its origin far back in the middle ages, when learning was considered a degradation, and is the modern scion of the spirit that led Douglass to exult that neither he nor any of his kinsmen "could pen a line," we know not, but certain it is, it exists; nor is it always concealed from the frequently too sensitive nature of the teacher. His reception in the fashionable drawing-room is marked with cold indifference, and he is fortunate if he escapes without having his ears tingled by some rude remark about his person or his calling. On such occasions, how much is expressed by "He is only a country schoolmaster!" Nor in the less imposing parlor of the patron of his school, is he always cordially welcomed. The same affected superiority is often manifested here even by his pupils.

But the social circle is not the only place in which the teacher is met with contumely. By the public, generally, he is neglected; his merits undiscussed, his labors and trials ignored. He who, most of all, holds the destinies of a people in his hands, whose influence for good or evil must be stamped upon the rising generation, is neither encouraged nor sustained by the public, but treated with indifference or talked of with sneers.

Nor is the teacher better used as regards the pecuniary reward of his labors. The man of medicine and the votary of law often make fortunes; but who ever heard of a teacher getting rich? A few hundred dollars is all he can hope to receive for his toil in the school-room, for all his solicitude and cares. How different is the fate of the physician! For every bolus administered, or recipe written in doggerel Latin, he charges more, often, than the teacher makes in a week of incessant vexation. And his bill is paid. To the first is rendered honor, deference, and wealth; the second is socially disparaged, and, to crown all, is scantily paid.

It becomes us to inquire into the cause of this unwarrantable distinction. Why is the teacher badly paid; why is he treated with indifference; why is his importance overlooked? There are several causes, among which is the world's depreciative estimate of the cultivation of the mental faculties. Not that it does not admire and esteem intellect, for when some master spirit rears itself and speaks,

"The applause of list'ning senates to command,"

"nations hear entranced," and are startled with wonder and admiration of mind before them. But does the world consider how this great temple of

mind was built? Does it reflect that, perhaps, the corner-stone was laid in the humble school-room by a faithful teacher? Does it think with what care and solicitude the foundation was laid, the walls raised; how cautiously, how assiduously the builder wrought? No; the world is a poor thinker. It does not remember that the giant of intellect was once a school-boy; or if it is so reflecting, it does not credit the one who produced the change—who molded the crude materials into such a monument of greatness.

But the want of general esteem for education is not the only cause of the indifference and disrespect manifested toward the teacher, and for the poor remuneration of his services; some share of the blame must be laid at his own door. An old proverb says, "Every man is the maker of his own fortune;" equally true is it, that the members of a profession are responsible for the public estimation of that profession. Perhaps, no calling has suffered so much from the incompetence and unfitness of many who have taken upon themselves its important duties, as teachers. Many a young man enters upon these duties not only with no well-defined idea of the responsibility assumed, but often with no mental or moral attainments fitting him for the position. He may be well-meaning, but with such qualifications how can the youthful soul prosper in his care? Can he give his pupils what he does not himself possess?

There is a teacher of another class—the man who deliberately "takes up" the profession as the stepping-stone to something else; who wishes to study law, medicine, or divinity, and teaches merely for a support, thus trampling one noble calling in the dust to prepare himself for another. He is a teacher, not because he esteems teaching a duty and a pleasure, but rather because it serves his immediate purposes; to be thrown aside when he has no further need of it. With such opinions, such motives, is it likely he will be a true teacher? True, though some of this class take up teaching with no intention of adopting it as a life vocation, they often, ultimately, make it such. So much the worse for the profession. Their motives were faulty in entering; and, surely, six months of unfaithful teaching, though bad enough, is preferable to years of the same. Besides, their remaining in a profession which was not their choice arises not unfrequently from a lack of energy and steadiness of purpose, which is fatal to a faithful discharge of the teacher's duties.

Must not the profession suffer in the hands of such men? And yet the picture is not over-drawn. There is even a darker side. Is the ignorant, the bigoted, the intemperate, the dishonest teacher uncommon? Is it astonishing, then, that the profession is held in poor repute? But, say some, why are not the other professions held responsible for the offenses of individuals? Why is not medicine decried for the fatal blunders of tyros and quacks? law for the chicanery, the dishonesty, and meanness of pettifoggers? We must answer, the world is unjust. Part of this dis-

crimination, however, is due to the fact that incompetent teachers are more numerous than unworthy physicians and attorneys. Another ground for it is, that mankind estimates every thing by the cost, and esteems the teacher's profession entitled to less respect because its attainment is attended with less expense. Another cause rests with the teachers themselves. How can they entertain the hope that others will respect their profession, when they themselves do not? It is urged that if the teacher were more justly compensated, inferior men must give place to better. This is most assuredly true. Money is all-powerful. What, indeed, keeps talent and learning out of the teacher's profession, if it be not that better remuneration is offered by nearly every other. That there have been and still are many who overlook even this natural and important consideration, we would not deny. But the dollar is almighty. Make the profession lucrative, and in time not only will genius and learning become its votaries, but respect and renown be laid at its feet.

But how is the *desideratum*—increase of salaries—to be effected? Will the world, of its own accord, suddenly see its error, and now, after denying it for ages, render the teacher his merited reward? It is hardly to be expected. Were teachers all to become educated, dignified men, each exemplifying in himself the model instructor, men would say, "We have treated these men with injustice; henceforth, we will make them amends." But this reformation is no more probable than the other. This, then, is the issue: it is desirable, on the one hand, that the teacher be better rewarded both pecuniarily and in the respect due him professionally; on the other hand, that he should elevate himself in moral and intellectual worth. Either of these two objects being effected, must eventually produce the other. But the world refuses the first, because it thinks the teacher unworthy of it; and the teacher, wanting in wisdom, foresight, and desire for improvement, does not stir in the second. And this passive antagonism, between illiberality on one side and apathy on the other, is the great stumbling-block that has checked the advance of sound and general education.

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THE fossil remains of a gigantic bird, estimated to have stood 25 feet high, have been discovered in some beds of limestone at Nelson in New Zealand. The remains consist of a head, minus the lower jaw, the dimensions of which are three feet four inches by one foot ten inches, and a body, minus the neck. The thorax is highly developed, but rather flat; the tail long, and body bulky. The wings, which are well defined, are large and close to the body, and are separated by a saddle or cradle, very graceful in form; the feathers covering the body are of large size, and lying close.

## MRS. WEAZLE'S VISIT TO THE OPERA.

"WELL, yer see, Sary, I never wastes much time a-talkin', but I raly must tell yer about my visit ter the uproar last evenin'. Yer needn't stare so, Sary. I'm a-tellin' yer 'the truth as it is,' as our minister used ter say—very good minister he was, too. Yes, I had the extremest melicity of going ter a rale live uproar, as my Hezekiar ses, and it was an uproar shore enuf. Well, as I was a-tellin' yer, my Hezekiar cums hum last evenin', and ses he, 'Mother, was yer ever ter an uproar?' 'Why! lawful sakes, Hezekiar,' ses I, 'what's that?' 'Oh!' ses he, 'it's a place whar they have music, singin', and dancin', and if you'll go I'll take yer.' Well, Sary, I goes and wears my harnsum, black silk gown. Yer mind it, don't yer?"

"Oh! yes, mem, it's likely I do."

"Well, Sary, we walks on tell we cum ter a great big place, what looked like ter a hotel, but Hezekiar sed it warn't. 'Is this the place where they keeps the uproar?' says I. 'It won't break loose and hurt any person, I hope!' We was agoin' up the steps then, and Hezekiar didn't seem ter heer me, but I know'd I'd sed somethin' smart, for all the folks looked at me, greerish-like, and larfed."

"Well, Sary, if you had been thare you'd a-fainted rite away, bein' as you're not accustomed tu sich grand sites like I am. But what frustrated me most was, I couldn't see the uproar nowhere. I axed Hezekiar ef he thot she was sick. He sed: 'No; it wud commence arter awile.'"

"Well, then, a little bell tingled, and Hezekiar sed they was agoin to riz the curtin. Well, shore enuf, they did riz it, and a young woman cum out to dance. Well, persons seemed tu like that dancin' amazin'ly, and a young feller next ter me sed it was 'de-vine and in-ee-me-table.' Ses I to him: 'Young man, did yer swaller the dick-tion-nary afore ye cum'd heer?' Well, Sary, I know'd I'd sed somethin' smart, fur all the folks looked at me agen, and bnsted out a larfin; but Hezekiar didn't seem to like it, for he looked hard at me, and ses, 'Hush, mother.'"

"Well, the next thing, a man and woman cums out on the stage, and commences to sing in some outlandish furin tung that nobody couldn't understand, but the people seemed ter like it, and the young feller next ter me yells out, 'De-lite-fool! hex-squeeze-it!' Well, yer see, I nudged the young man, and ses I: 'Say, won't yer have a strawberry and a roasted chesnut to wash them are big words down?' Well, the young feller looked cheapish, and the folks commenced fur ter larf, but jest then Hezekiar rized up, and lookin' rale angry like, ses he, 'Mother, since yer keep the folks a larfin at yer all the time, I guess we'd better go hum.' 'Why, lawful sakes, Hezekiar,' ses I, 'it's pleasin fer me fur to heer folks larf so,' but Hezekiar wouldn't stay no longer, so I had ter cum away

## ENGLISH GRAMMAR.

ENGLISH GRAMMAR was defined by the older of modern authors to be "the art of using the English language correctly." Later writers, believing that the word Art does not cover the whole ground which Grammar proposes to occupy, or that it savors a little too much of the mechanical for a subject which is to some extent speculative, have either abandoned the old definition, or materially altered it. Some have substituted the word science in place of art ; others, to be more definite, have called Grammar a science and an art. The reason for this change may be stated thus : Art, according to its modern acceptation, is used with reference to the practical application of established rules and formulas, and does not concern itself with the methods or sources from which they are obtained ; while science is used for that process which investigates principles, discovers facts, classifies the knowledge derived from these facts and principles, and enunciates it in rules and formulas. Hence art and science are complementary terms, both of which are necessary to the complete statement of every branch of speculative knowledge which has a practical application. For example, there is a science and an art of teaching. The science is that part of mental philosophy which discovers the processes by which the human mind receives knowledge, and may use that knowledge to secure the highest discipline of its mental faculties ; the art of teaching is such a presentation of knowledge that it may be readily grasped, and so directing discipline as to secure the highest intellectual development. Whateley, in his *Elements of Logic* (the definition of which has passed through a change similar to that of grammar,) states the question accurately. He says, "Logic may be considered as the science and the art of reasoning. It investigates the principles on which argumentation is conducted, and furnishes such rules as may be derived from these principles, for guarding against erroneous deductions. . . . For it is to be remembered that, as a science, it is conversant about speculative knowledge only ; and art is the application of knowledge to practice. Hence logic (as well as any other system of knowledge) becomes, when applied to practice, an art : while, confined to the theory of reasoning, it is strictly a science."\*

The reader has, doubtless, observed, in regard to several of the practical sciences, the propriety of calling them sciences has never been questioned ; in fact, we never think of calling them any thing else, while others are almost spoken of as arts. Thus we say the science of ethics, of theology, but the art of rhetoric and of grammar ; and yet one is as practical as the other, and no more so. The reason, or history rather, of this vexed anomaly, which has perplexed many a reader, is given by Sir William Hamil-

\* Introduction, §1.

ton substantially as follows: \* "The distinction dates back to the Aristotelic philosophy, and had its origin in certain distinctions in the Greek language, to which modern writers have not attended with proper care. The word *πρακτικός* (*praktikos*)=*practical*, denoted that action which terminated in action; while *ποιητικός* (*poietikos*)=*productive*, denoted that action which resulted in some permanent product. Dancing and music are *practical*, as leaving no work after their performance; painting and statuary are *productive*, as leaving some product over and above their energy. Aristotle defined art as a habit productive, and not as a habit practical; and hence the word art came to be applied exclusively to those sciences whose end did not result in mere action or energy, but in a permanent product. Of the former class are ethics and theology; of the latter, logic and grammar."

Modern writers have, therefore, called the practical sciences exclusively sciences, and the productive ones exclusively arts. But, notwithstanding the great antiquity of this distinction, in the sense in which the words science and art are at present used, there seems to be no valid objection to calling grammar a science as well as an art, but on the other hand much in favor of it. It not only gathers up and arranges the facts about which it is conversant, but it propounds its theories, investigates principles, and lays down rules; in other words, it has a theoretical and speculative side as well as a practical one.

But grammar is the science and art of what? Some say of language; others, of using language correctly. So are lexicography and philology. Are these, then, parts of grammar? Not as we usually understand it. Philology, of late, is fast taking rank as a separate science; indeed, its most renowned professors claim for it a place among the physical sciences, as being governed by as certain and as ascertainable laws as mechanics or hydrostatics, while lexicography was long ago acknowledged as a separate department of knowledge. In fact, many of the latest grammars, while keeping up the old four-fold division of subjects, have abandoned the ground of orthography to the spelling-book and dictionary. But that of which grammar does treat is the *sentence*; the modifications and arrangement of words which compose the sentence. Here it holds undisputed ground, and it is quite enough for successful occupancy. It has nothing to do with the elements of words—the letters—that is the business of the lexicographer. It simply takes the words as it finds them, marks their inflections, and observes the laws of their collocation. It has but little to do with punctuation. That is strictly the province of rhetoric. All that it need concern itself with here, is to note the marks which indicate the relation of the word in the sentence, and the parts of the sentence to each other. Versification also belongs to rhetoric. It makes no difference

\* Lectures on Metaphysics, American ed., p. 81 et passim.



with the grammatical relation of words whether they are arranged in poetic measure or not. A noun is a noun whether it be a trochee or spondee, or any other foot of a measure. Neither its gender, person, number, nor case is modified, whether it be in rhyme, blank verse, or prose. The lumbering up of a text-book, especially of *English Grammar*, with all these subjects is worse than folly. It only perplexes the teacher, discourages the learner, and makes the book more cumbersome and expensive. The sooner each separate department of knowledge becomes restricted to its particular sphere, the sooner may we expect to see real substantial progress. Grammar, then (if we may hazard a definition), is the science of the sentence, and the art of its construction. This may be liable to some objections, but we cannot at present think of any thing better; and it has at least this advantage, it defines the thing and excludes the what is foreign to the subject. As a science, it investigates the changes which words undergo in different relations, classifies those words, and lays down rules for their proper collocation. As an art, it is the application of those rules to the arrangement of words and their construction to the sentence. This presents a definite object which the learner can understand. His grammar is not at once a spelling-book, a dictionary, a grammar, and a rhetoric combined—a miscellaneous gathering—but a single subject which he feels that he can learn and understand. It is comprised under the two divisions of etymology (or some more appropriate name) and syntax. These are so intimately connected, so interdependent, that they obviously constitute but one science. By adhering to this course, we also take advantage of the well-known law of the division of labor. The subject is not only more intelligibly presented to the learner, but affords a more restricted topic of discussion to the author, and so insures a more complete and satisfactory treatment. For just so long as orthography and prosody are considered as parts of grammar, authors feel compelled to give them some show of attention. It is gratifying, however, to see that writers are making progress in this direction; for, whereas, these two parts used to occupy about one-third part of the whole book, now the most popular authors dispose of them in a few lines, or at most in a few pages.

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HON. RUFUS CHOATE in an address once said: "Happy is he who has laid up in youth, and held steadfast in all fortune, a genuine and passionate love of reading; the true balm of hurt minds, of surer and more healthful charm than poppy or mandragora, or all the drowsy syrups of the world. By that single taste, by that simple capacity, he may be borne in a moment into the still regions of delightful study, and be at rest."

## EXAMINATION DAY AT MADAME SAVANTE'S.

MISS MAUDE MULLER, }  
 MISS ADA SINCLAIR, } *At study.*  
 MISS MAY MORTON, }

[Enter MISS KATE HIGHFLY.]

*Miss Highfly.* Here you are, at it again! What a set of book-worms you are! I did not come here to talk about books, however, but am in search of that brilliant luminary, Miss Amanda Malvina Spriggs. Ah, see, she comes!

[Enter MISS SPRIGGS, MISS ARRINDALE, LUCY LAMMERMOOR, E. PERCY.]

*Miss Spriggs.* What's coming—any thing for me? I say, Miss Maude Muller, what are you going to wear to the swarry?

*Maude Muller.* My best suit of manners, Miss Spriggs.

*E. Percy.* Wouldn't you like to borrow the pattern?

*Miss S.* No; I don't want none of your patterns. My par is rich enough to buy my clothes ready-made. I could dress like Queen Victory if I wanted to.

*Kate H.* Wouldn't it be a striking likeness? There would be danger of your being mistaken for her daughter.

*Miss S.* I don't want to be taken for nobody. I'm as good as anybody; so is pap. I come here because I heard only the 'stocracy comed. I didn't keer much about it; 'twas better fun at home.

*Maude M.* You must be lonely among so many strangers?

*Miss S.* Not a bit of it; I'm used to seeing a great many folks. I went into company all last winter—balls, swarries, circuses, and all sorts of things. I didn't keer about coming away, but pap thought I'd better take music, and tend to painting, a spell, 'cause you know it's the fashion.

*Miss H.* I suppose, then, you have completed your studies?

*Miss S.* Yes; geography, grammar, and such like, I done up long ago. Pap says I know enough of 'em.

*Miss P.* But you have not studied mental philosophy, rhetoric, or astronomy?

*Miss S.* Nary one of 'em. I wouldn't be bothered with 'em. I'm a parlor boarder. Pap pays a great price for me, too.

[Enter MADAME.]

*Madame.* Young ladies, your time for recreation has expired; you will now prepare for the recitations of the day. The Greek and Hebrew classes will not recite, as Prof. Highscufflesneeki is suffering from temporary indisposition. You will hand in your Spanish, Italian, and French exercises for correction. The young ladies appointed to take charge of the laboratory will be prepared this afternoon to discuss electricity and to

illustrate the subject by the operation of the galvanic battery. Miss Lammermoor, Miss Sinclair, Miss Glorianna Gaston, Miss Arianna Arringdale, will approximate. Young ladies, I presume you are prepared with your demonstrations in conic sections. I am much gratified with the report of your diligence, handed me by Professor Parallelogram. I wish you to persevere unweariedly, as the next text-book will be *Newton's Principia*. Miss Glorianna Gaston, what is that secret bond which binds together those glorious orbs that circle round in illimitable space?

*Miss G.* Attraction of gravitation, madame.

*Mdme.* Miss Arringdale, by whom was attraction of gravitation discovered?

*Arianna Arringdale.* By Newton, madame.

*Mdme.* What do you understand by quadratic equations?

*Ada Sinclair.* Those involving the unknown power of the second quantity.

*Mdme.* You have great genius for transposition, Miss Sinclair. You may retire, young ladies. The class in ethnology, natural history, and sciences—(Miss Muller, Miss Highfly, Miss Percy, Miss England, Miss Morton.) You will be kind enough, Miss Highfly, to designate some of the natural sciences?

*Kate H.* Let's see. Them's ethmology, zoononomy, botony, goology, mineral-water-ology, longmeterology. Indeed, madame, I don't remember any more.

*Mdme.* The only wonder is, Miss Highfly, that you remember so many. You must have been spending your leisure hours in correcting the text-books. Miss Muller, let me see if you vie with your friend. Can you tell me some of the general forms and arrangements of leaves?

*Maude M.* Ovate, obovate, cuneate, sagittate, cordate, peltate, pinnate, and palmate, madame.

*Mdme.* Very creditable.

*Miss S.* Wonder why she couldn't keep on into the twelve times eight? Don't she know the rest of the multiplication table?

*Mdme.* Miss England, what are the five grand divisions into which mankind is divided?

*Miss E.* Caucasian, Mongolian, Malay, American, and Americans of African descent.

*Mdme.* Miss Morton, what are the great leading orders of fishes?

*Miss M.* Spine-rayed bony, soft-rayed bony, and cartilaginous.

*Mdme.* Perfectly correct, Miss Morton. Will you, Miss Percy, tell me what the third division of the second order is denominated?

*Miss P.* The apodal or footless division, madame.

*Mdme.* You will take up, in review, the second volume of Prof. Superficial's treatise on this subject. Miss Spriggs, I will ask you a few questions, in order to ascertain to what department I shall assign you.

*Miss S.* I hope it will be a good roomy apartment, with a big fire in it, ma'am.

*Mdme.* Miss Spriggs, I am accustomed to conversing with young ladies who deport themselves as such.

*Miss S.* Well, aint I? I always thought I was a lady.

*Mdme.* I will excuse you from further remarks. I perceive the preparatory will have a brilliant addition. Have you ever turned your attention to geography? If so, please to give me the capital city of each State.

*Miss S.* Well, if you wait till I kin give 'em to you, it will have to be till I can get pap to buy 'em for me. I brought a silver fork and spoon, and all them things; but I didn't think of them other consarns.

*Mdme.* Grant me patience! In what species shall I class this *rara avis*?

*Miss S.* Specie's mighty scarce, now, I tell you. I don't wonder you're puzzled.

*Mdme.* Miss Spriggs, what is arithmetic?

*Miss S.* 'Rethmetic! Well, I've beern tell of folks goin' on tick, and clock ticking; is't any of them kind you mean?

*Mdme.* Where were you educated, or rather where were you *not* educated, Miss Spriggs?

*Miss S.* You're too many for me, now. I come here to be eddicated 'long with the 'stocracy; and pap said as how I'd beat the whole comboozle, and if there was any meddle to be given, I'd be sure to get it, for I was the most meddlesome gal he knowed.

*Mdme.* No more! Spare my nerves. You may retire to your apartment. I will consider your case.

*Miss S.* I guess I am a case. Pap says I'm the hardest kind of a case, but he guessed *you* could squelch me. Well, good-by, ma'am, and when you want me again jist let me know.

*Mdme.* Pity the sorrows of a preceptress! What a parody on the march of intellect, when capacities are supposed to be in the market; when the substitute for Pegasus is to be greenbacks, and the road to Parnassus can be reached only by a "carriage and four!"

THE MEMORY OF A MOTHER.—When temptation assails, and when we are almost persuaded to do wrong, how often a mother's word of warning will call to mind vows that are rarely broken! Yes, the memory of a mother has saved many a poor wretch from going astray. Tall grass may be growing over the hallowed spot where her earthly remains repose; the dying leaves of autumn may be whirled over them, or the white mantle of winter may cover them from sight; yet her spirit appears when he walks in the right path, and gently, softly, mournfully calls to him when wandering off into the ways of error.

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## VACATION.

**W**ELCOME is vacation to all ! And thrice welcome to the teacher ! In the long weeks of the early summer he has been looking longingly forward to his release from the badly ventilated school-room and the peculiar anxieties of his calling. Now, divested of pedagogical restraint and dignity, he is free to enjoy the broad fields and the free pure air of the country. He is free to renew his youth in the careless ease and jolly good-humor of his home and early associations.

Vacation is a blessed compensation for work and worry, toil and care. In spite of years, it tends to make children of us. We may not turn somersaults on the green ; or swing our hats in air, with merry shouts and loud huzzas ; or roll, like young colts, in the soft meadow-grass ; or leap the garden fence at a bound ; or turn our jackets inside out ; or jump out of our boots to paddle, barefoot, down the stream. Yet, nevertheless, we are sometimes children again. Vacation calls up this childhood within us, and transforms us, for the time, into lads and lasses.

We gladly rise from our time-worn seats, shake the professional dust from our garments, and seek the velvet meadow and the rugged mountain. We pluck the wild daisy, recline under the wide-spreading tree, listening to the rippling stream and the music of the birds. We watch the flocks upon the hill-side, and delight our vision in the brood that sails upon the stream. We pat Rover on the head, and extend a handful of fragrant clover to meek-eyed Brindle. To all these vacation lures us, "pilgrims weary with the march of life."

Verily, vacation is the teacher's honeymoon of life. It mollifies the temper that has been ruffled by the friction of school machinery. Friction is inevitable. For school boys and girls are no exceptions to the general degeneracy of the race. Children are not born angels, and we often find perversity and deformity in place of wings. It is well for us to contemplate the freshness and beauty, the innocence and purity of childhood. It is pleasant to teach the "young idea how to shoot ;" but when the twig has a constitutional tendency to twist in its growth and run into knots, it is not so easy to rear it to comely proportions. It is inspiring

to teach where there is a desire to learn ; but attempts to force knowledge through thickened skulls into empty craniums is hard and dogged work. To command the lively attention of those hungry for the crumbs of knowledge is pleasant employment ; but when pupils prefer peanuts to geography and doughnuts to mathematics, teaching is not so very delectable after all. It is satisfactory to mark progress in wisdom, and to watch the unfolding of mind ; but it is not particularly inspiring to discover that your pupil is more eager for a surreptitious bite at an apple, or a "dig" at the ribs of his companion, than for an honorable position at the head of his class. However, whatever may be the pros and cons of "school-keeping," VACATION is a blessed "institution" for the teacher.

Nor is vacation less appreciated by the student. What boarding-school miss, or what collegian—be he verdant freshman, wise sophomore, conservative junior, or reverend senior—but has impatiently counted over and over again the days which preceded vacation. His vacation brings with it the gentle embraces of his mother, more esteemed by him than medals of gold or wreaths of laurel, with all his "college honors."

To all classes and conditions of men, vacation brings grateful relief. It relaxes the lawyer's "tape," and allows him perchance a trip to Saratoga, or Newport, or Long Branch, to make the acquaintance of his wife and family. Sometimes it entices the poor metropolitan editor from his "easy (!) chair," and gives him permission to have and to utter "opinions of his own." The editor of the MONTHLY, even, may be able to enjoy his clam chowder and blue-fish at Fire Island beach.

May this vacation indeed be a happy one for us all ; and may we all take in a good stock of new life and strength, to conduct successfully our next campaign against ignorance. May none have occasion to say that, the realization of the pleasures of vacation is less than the anticipation.

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#### THE SOCIAL STANDING OF TEACHERS.

A CONTRIBUTOR to the present number of the MONTHLY, in an interesting paper on the Teacher's Profession, assumes that the social standing of teachers is low—unjustly low ; that there exists in the common mind a feeling of contempt for the profession, which, outweighing the influence of the teacher's personal worth, condemns him to neglect and contumely, simply because he is a teacher. This opinion is by no means uncommon ; nor is it without some shadow of plausibility. Still, we

believe it to be unfounded in fact, and unjust both to the profession and to the public. We do not believe that a teacher's certificate is a passport to obloquy; nor that teachers are ever socially disparaged on account of their calling.

On the contrary, the social prejudice, if prejudice it may be called, is in the teacher's favor, rather than against him. In most circles, the simple fact that a man is a teacher is sufficient to insure him a kindly reception. He is presumed to be a gentleman if not a scholar, and as such he is treated so long as his own actions do not prove him unworthy. If he fails to receive the respect due to his calling—and surely no calling is more respectable—the fault, in nine cases out of ten, is his own; and we do wrong to hold the entire profession responsible for the contempt which is justly felt for its unworthy members. With the better and perhaps larger portion of our people, no profession is more highly honored, theoretically at least, than teaching; and if honor is not practically rendered to individual teachers, they must look to themselves for the remedy.

We would not deny that there are, in almost every place, some who look upon the man who trains their children somewhat as they do upon the man who drives their horses, and who would be as likely to welcome to the "fashionable drawing-room" the one as the other. But this is not surprising, and the teacher who takes to heart the slights of such people is unworthy the name of teacher. Those with whom a man's social position is determined, not by his personal worth and use as a citizen, but by the condition of his bank account or the amount of his income tax, cannot be expected to reverse their standard of respectability in compliment to a profession with the merits of which they are but little acquainted. They look down upon the teacher, not because he is a teacher, but because he is poor.

Though we must admit that every community contains too large a proportion of those who make worth subservient to wealth, we feel that it is an insult to the good sense of our people, as a whole, to claim that they are so unjust and unwise as to condemn the votaries of the noblest profession, simply from an unfounded contempt for the profession. In fact, we would sooner take the opposite ground, and hold that the popular appreciation of the teacher's labors is so high as to lead oftener to an overestimate than to a disparagement of teachers, and to blind the public vision to the pretentious ignorance of thousands who assume, without just preparation, the teacher's responsible duties.

## EDITORIAL CORRESPONDENCE.

DRESDEN, June, 1866.

AS the time for writing my monthly letter comes round, it always brings with it the regret that my engagements press so constantly upon me that I cannot gain leisure for that close examination of the schools which might yield the best material for a series of educational letters. And yet there is this compensation for the loss, that the more I have seen of German schools, the more fully I am convinced that it is true that in no important respect do they maintain any superiority over our own. It is hardly necessary to tell the reader that the Free School system, as we understand the word, does not exist here; though many of the schools are under the control of the State, yet they are no more *free*, in the American use of the word, than is Harvard College or Michigan University. The gymnasia, the real schools, the tradesmen's schools, the industrial schools, the kindergartens, are all sustained as are our American academies and private schools, though they are almost all under the direction of the State. The class system, the most marked feature of society here, is not lost sight of among the children and youth. The nobility regard it as work of condescension when they send their sons to the gymnasium, even although it be presided over by teachers of lifelong experience, of extensive learning, and of even European reputation. The poor man may, by the greatest effort and constant sacrifice, be able to command the means to educate his boy in one of the higher schools, but few lads are willing to incur the scorn and contempt which poverty or a "low station" incur. A school such as ours, where all sit together, where the son of a senator may be on the same bench, is on the same form with the son of a blacksmith, is not known in Germany. It contemplates a state of society which is utterly unknown here. When the "State schools" of this country are spoken of, it is only meant they are under the control of the government, the teachers chosen and their salaries allotted by the state, but nothing of freedom is meant. Every father pays fees for the instruction of his children. Nor are these fees light. There lies on my table, as I write these lines, the prospectus of one of the Dresden schools. You would suppose that in this country, where wages are not on the whole more than one-third as high as they are with us, the prices of tuition would be correspondingly low. But they are not so. I give the terms reckoned in American gold. Children, from three to six, attending the kindergarten department, pay \$1.12 monthly; those from six to eight pay \$1.50; those from eight to twelve pay \$1.87; and those above twelve pay \$2.25. To this sum must be added a slight entrance fee and a special tax for warming the rooms. A family of three or four children must cost the father for tuition alone at least \$50 a year; and when to this is added the book bill, the sum is not a light one for a poor man to pay. Now, fifty dollars seems a small bill compared with the sums paid in Boston, New York, and Brooklyn; but it may be, and often is, far more out of proportion to the means of the parents here than the terms charged in our private schools. Many of the fathers sending to this school of which I write are public officials, clergymen, or teachers. Their income is not much more, as a general rule, than two-thirds what the same class of men would receive in the United States.



The introduction of the free-school system would be the greatest possible boon to them ; but it is not possible that it can be done as long as the class distinction breaks society up into castes as inflexible as those of the East. But, it may be asked by the reader, are there no free schools in Germany ? Does not the government provide for the education of the poor ? Yes, it does ; but how ? It gives, to those who are too poor to pay tuition, schools of commensurate pretensions. It provides small back rooms, unventilated of course, and in squalid neighborhoods ; it places over them teachers of miserable education, in many cases even speaking impure German, and in no way capable of imparting valuable instruction to the pupils ; and this is all. Such a magnificent system as ours, which is more sedulous for the education of the poor man's sons than of the rich man's, has never been dreamed of here. Our school system, I feel it more and more, is the glory of America ; it is the corner-stone of our prosperity ; it is the pillar on which our future hopes depend. This is a truism, but its verity is less a common-place when pronounced in Europe than when uttered in America. I would not exchange this single organic element, the freedom of our schools, for ten times the proficiency in classical Latin and Greek which is given in a German gymnasium.

And here I touch upon a point which wants a little further expansion. We often hear the "thoroughness" attained in the German schools held up to an unchallenged approbation. So far as just two studies are concerned, it is no doubt true ; but beyond that, it does not seem to me to be so. Owing to the great prominence given in the Universities to the languages of ancient Greece and Rome, the German teachers are far better fitted to impart instruction in the former literature of these two lands than our American teachers are ; but there we have to stop. The modern languages, the sciences, metaphysics, and general history are, on the whole, better taught in America than here. In the last-named study but one, there is no comparison between the relative degree of advancement reached in the two countries. Go into any school and listen to the reading, the mathematical, geographical, and historical exercises, and you will give the preference to the exercises of the American schools. Our school-houses are not more superior to theirs than are the teachers whom we employ, and the excellence of the methods employed. And the reason is not hard to find. In Germany, men press eagerly into the ranks of teachers because it gives them a good position, a sure living, and much leisure. They will "do better" in this calling than in any handicraft which they might adopt. But it is not so with us. The American teacher has an assured position in society it is true, but his income is often not so great as that of the carpenter or the wheelwright. He, as well as the clergyman, takes his place at a pecuniary sacrifice. Such a test will always call out the best men. It is because the love of the calling is stronger than the love of money that makes our American teachers and clergymen the first in the world, the most efficient, and the least perfunctory. Once in a while the true ring comes out here, but it is not frequent. I remember a letter of Carl Ritter's, written before his appointment as Professor at Berlin, and while he was considering whether he should accept an invitation to be Pestalozzi's successor in Switzerland, in which he says that while he should like to live on the banks of the Rhine best, yet that for the sake of the rising generation he could go to the

world's end. If one saw more of this spirit in Germany, there would be more of that enthusiasm which animates American teachers, and far less of that mere professional spirit which is so marked in this Old World.

There is one feature in the German school-system which awakened the special admiration of Horace Mann, and which made him so urgent that we should model our schools on the European pattern. It was the method of imparting religious instruction. I am not familiar enough with his writings or his recently published biography to cite his opinions, or to attempt to show that they were rightly or wrongly based; but, speaking independently, I confess that religion does come into the foreground here, as all well-wishers to the Christian religion might wish it to do at home. And yet it is not possible, at the present day certainly, that it should be in America as in Germany, for here the state church is the symbol of a unity in religious matters of which we know nothing. Not that there is any real unity, but there is no outward mark of dissent, and the church machinery can be coerced by the State authorities, so far as to prescribe the use of certain manuals of religious instruction, and make it incumbent on every teacher to question his pupils from them. It is true these are not such books as our Sunday-school societies publish; they confine themselves usually to the undisputed facts of Bible history, they can be accepted alike by the believer and the rationalist; but they do give an acquaintance with the Bible as a classic and as a historical work, which is rarely equalled by the scholars of our Sunday-schools. It may be said, and will be said by many good and earnest people, that all this is nothing; that without the enforcement of Gospel truths, the most extended familiarity with Biblical history, antiquities and geography must pass as nothing. But so it does not seem to me; the pupils do not remain in heathenish ignorance of Bible facts; they have a good foundation on which the clergyman and the parents may build; and with faithful supplementary instruction there is no reason why the German youth should not become eminent in piety. If they do not do so, it is not because the system is faulty in the schools, but defective out of them; not because school teachers fail in their part, but because pastors and parents fail in theirs. So far as I am familiar with Mr. Mann's opinions, these were that the German system could be introduced into the United States; but, in the present clashing state of the various religious sects, it does not seem to me that such an event is possible. The most that we can hope for is unity in ethical principles, and that unity seems to be a consummated fact. Taking things as they are, with due allowance for the great efficiency and the immense compass of our Sunday-schools, there is little that is wanting, even morally and religiously, in our American schools. And yet there is a little that could be supplied without calling down any harsh criticisms. There is no church which could or would criticize the introduction of Biblical geography as a department of study; and yet this is one of the things in which American youths are the lamest. When we reflect that American scholars have done more towards the forwarding of this department than those of any other land, and when we reflect also on the many excellencies of our Sunday-schools, it is indeed surprising that we suffer our children to be so ignorant as we do of the simplest elements of Biblical geography.

Turning from this subject, let me allude to an error exceedingly preva-

lent in this country—namely, that, because America is the “New World,” every thing is there rude, unsettled, unformed. It was brought out not long ago in a conversation with a distinguished teacher. He had taken me over his school-house, which was new, and really excellent for Germany, but by no means comparable to one which we should have in America, in a city of the same size. The grade of the institution compared to that which we call a “high-school,” and yet there was no arrangement for ventilating the rooms, the seats were rude backwoods benches, the walls were very bare, and the whole appearance of the building would be inferior in American eyes. Still, as I said, it was an excellent house, for a German one. The teacher regarded the building and its appointments with conscious pride. After we had inspected the whole building, he turned and said, “Well, how do you like it?” “Very well,” I said, “very well, it is a good house; it must be one of the best in the country.” “Yes, it is,” he answered, with increased exultation; and by and by, if your country goes on, you will be able to have school-houses as large and good as this.” I thought it high time to undeceive him, if he thought that America needed any such sympathetic pity as that implied, so I answered him quietly: “Oh, I wasn’t comparing this house with those in America; but since you seem to think that we are behind you in this respect, I ought to tell you, that in a city as large as this such a house would be reckoned second or third rate. Nowhere in Europe are the schools so palatial as in the United States.” He regarded me with a look as if of inquiry whether on this particular subject I might not be a little insane, and then went on to say, with the utmost nonchalance: “Oh, we don’t expect much of America as yet; you have a new country; by and by you will, no doubt, be able to have every thing as fine as we have in Europe.” That was a little too cool; but there was no use in going off in a passion, and so I took him up at the words “you have a new country,” and spoke a little more at length. I asked him whether, when neighbors and friends of his took all their children and goods, and put them in a boat and crossed over to the other side of the river, built a house and began to reclaim land, it was necessary to presuppose that they reduce themselves to the level of savages, and must build up their civilization *de novo*? And would it make any special difference in the principle involved whether the journey across consumed ten minutes or a month? After getting that point settled, I showed him, or attempted to do so, that in all respects England is now, and has been for centuries, just about a century in advance of Germany in all that constitutes the comforts of civilization,—a country without carpets and easy-chairs, without water-pipes and decent beds, without cooking stoves and ventilators, without an art of cookery, and without newspapers (so far as the body of the population is concerned)—a country where all that exists, which is not of French or English origin, carries us back to greater rudeness than has been known in England for a hundred years, as I took special pains to show this eminent teacher. That point being settled, I asked him how he would demonstrate, that if English people, who, two hundred years ago, were more than a century in advance of the Germans, moved their effects to America, and took all their culture and civilization with them, we could be spoken of as a “new country,” and the hope expressed about us, that by and by we might enjoy all the advantages of the

Old World. It was a good earnest "talk," and I trust will not be forgotten, as it was received without a particle of ill-nature. I cite it here merely because it illustrates one phase of German opinions about the New World. Other men are wiser, and know how to measure us. Every year there is a better knowledge of America and its institutions; but much remains to be taught yet. We hear a good deal about German ignorance of American geography, but I wish that this were the worst of their sins concerning us. Notwithstanding the intelligent books written about America, and the great influence of such papers as the *Leipsig Illustrated News*, the darkness which rests upon Germany is very great. But one of the radical reasons why we have been so much misunderstood is the one hinted in the above conversation, that, as we are a "new country," we have not yet risen above the mists of barbarism and the estate of savagery.

W. L. G.

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### A SUMMER LETTER.

MR. EDITOR—One day last week I went to the Academy. It is, at the north end of a large common, part of which is adorned by numerous shade-trees, well-grown and various. Think of the loveliest knoll in the Central Park ramble, and imagine, in place of the picturesque arbor there, an old two-story white building, with green blinds, a huge door-stone, and a somewhat imposing belfry. That is the outside of our Academy. I counted twenty-five pupils, little boys and girls, boys and girls "of a larger growth," several young ladies, and one veteran who served three whole years in the 18th Conn. Infantry, and is now just nineteen. As soon as he was mustered out, he announced his intention of resuming his studies. An acquaintance of his said to one of the teachers: "He is so bashful, I hope you will give him a desk by the wall, so that he can look one way without seeing girls." But they say he never looks that way! Alexander Hamilton said: "If I must have a master, give me one with epaulettes; somebody that I can look up to and respect, and not a master with a quill behind his ear." If all soldiers have that feeling when they return to private life, it must have been a hard thing for this young veteran to fall in under feminine command in the ranks of a summer school. He hesitated a few days, and then said that he may sometime be so situated that it will be of more importance to him that he has the knowledge he will gain this summer than under what circumstances he has obtained it. I noticed him during the opening exercises. He recited his Bible verse as sweetly as the youngest in the room. Just before recess a list of names was read, including the veteran's, for the game of croquet. The arches stand on the common, and in pleasant weather there is a long recess every forenoon for those pupils who have not whispered. On this occasion, as the others were selecting their mallets, the veteran said to a teacher near him: "I forfeited my privilege a few minutes ago." So a substitute took his mallet. He, meanwhile, reopened his Natural Philosophy, and was soon working on his slate a problem of two locomotives; how they would compare in velocity, momentum, and striking force. The

day was intensely hot, and the croquet players came in almost as damp as if they had all "gone up Salt River" by literal swimming, instead of the figure of speech peculiar to their game. At noon the pupils lunched and chatted under the Lombardy poplars. Nothing else afforded shade dense enough for such a day. When the bell rang, nobody wanted to come in. And it was so arranged that some of the lessons were recited out doors that day. When the afternoon recess was over, all came to order as they would in the school-room, but remained in the shade of the poplars. The veteran looked as if he thought it a pleasant encampment. Warm weather for school, most certainly; but not too warm for singing. "Music in the air" sounded all the better, because the air was not confined by walls and doors.

The hour had come for the botany class. A small boy passed round some potato blossoms, which were analyzed by acclamation. We then considered other nightshades and other tubers, till the pupils were invited to re-enter the Academy for such recitations as could not so well be conducted out-doors. After the school had been dismissed, we read to each other till the lengthening shadows had covered the croquet ground. How did people ever entertain their summer visitors before croquet was invented? It was not played by school-children this time—not exactly. A number of old maids had been invited to come over sometime and try the new game. And they all happened to come at once. A bystander remarked that they played slowly. Another said it was because they hadn't played any thing since they were children, and that was so long ago! There was a little confusion sometimes; for instance, when the call was "Gray! Gray!" it was necessary to notice that it meant the lady with the gray mallet, and not the one with the gray hair. But I don't believe the Dutchmen that Rip Van Winkle saw playing ninepins had half as good a time as these worthy Yankee women in their first game of croquet.

On taking leave of the Academy and its grounds, I congratulated the principal upon the pleasant and orderly appearance of her young people. She said: "The art of government has always seemed to me to have its difficulties. I have heard of parents going to hear Mr. Rarey lecture upon horses, in order to learn how to control their children. For myself, I never had that privilege. But I obtained one hint from reading how a man once managed his dog. He had him in a boat with a friend, who laughed incredulously when he boasted of the dog's obedient habits. At last he offered his friend a wager that the dog would instantly do the first three things he might ask of him. The wager was accepted; whereupon the master threw him overboard, and said: 'Swim, Major, swim!' Major swam till he reached shallow water. Then his master called out: 'Wade, Major, wade!' Major waded till he came to the shore. Then his master shouted: 'Shake yourself, Major, shake yourself!' Major shook himself. So I say to my boys and girls: 'Go out doors!' and they go. When I see that this order is promptly and pleasantly obeyed, I say: 'Play croquet!' and they play. And when it is too hot to play any longer, I say: 'Sit in the shade!' and in the shade they sit."

ROSA.

## EDUCATIONAL INTELLIGENCE.

## NEW ENGLAND STATES.

**MAINE.**—The Bowdoin College memorial hall will be built of granite, will be two stories high, and in the form of a Greek cross. It will cost \$35,000, of which \$20,000 have been already subscribed.

—Charles Bennet, of Brunswick, whipped a school-boy lately, and on complaint the case was carried into court. Thirty-eight citizens of the place now come forward with an address, affirming their great confidence in Mr. Bennet as a man and a teacher, and present him a purse of fifty dollars toward defraying the expenses of the trial.

**NEW HAMPSHIRE.**—The trustees and friends of the educational institute at New London have voted to raise \$100,000, with which to construct new buildings and provide for other wants of the institution. \$40,000 have been procured.

**MASSACHUSETTS.**—In consequence of the injunction which has been issued, forbidding the payment of the \$75,000 pledged by the people of Amherst toward the erection of proper buildings for the State Agricultural College at Amherst, it is stated that an effort will be made upon the assembling of the next Legislature to obtain a repeal of the law which provides that the town in which the college is located must furnish \$75,000, and to have an act passed that the whole expense be borne by the State. The grounds upon which the injunction was issued are, that the act is unconstitutional, and that it amounts to the relief of individuals from their private debts and forces them upon the town. It is also stated that unless the trustees receive the money before long, they will sell the farm purchased for the college, and locate it elsewhere.

—During the year ending April 1st, 1886, one hundred and sixty-one pupils were received into the State Reform School, and at that date two hundred and forty-eight remained on the list. The receipts were \$36,551.09, and the expenditures \$36,484.57. The trustees ask \$5,000 from the Legislature for repairs and improvements, and urge the appointment of a committee to examine the affairs of the school and the necessity for enlargement.

**CONNECTICUT.**—The school-fund amounts to \$2,046,532.23, \$252,836 having been added last year. The revenue received during the year was \$136,471.94, and dividends amounting to \$140,816.70 were distributed to the various school-districts. The lands given by Congress for support of an agricultural college were sold for \$185,000, and the money has been invested in bonds of

the State. The income from this fund is payable to Yale College, that institution having complied with the requirements specified in the act of Congress. The income for last year was \$7,531.26. The number of children attending school last year was 113,780, and the *per cap.* dividend was \$1.10. The revenue of the fund will be lessened by the recent laws of the State, which compel the commissioner to sell, at par, the bank-stocks which were paying ten per cent. dividends, and to invest the proceeds in State bonds, which pay but six per centum.

—The New Haven Board of Education have voted to exclude colored children from the public schools.

## MIDDLE STATES.

**NEW JERSEY.**—The recent examinations and commencement exercises of Rutgers College disclose a most decided progress in the status of that time-honored institution. The indomitable zeal and ability of President Campbell is telling upon its prosperity. The Faculty are, without exception, *live* men, distinguished in their several departments of instruction. Two new professors have just been elected—Professor Cooper, of Danville, Kentucky, for the Greek chair, and Captain Kellogg, of the United States Army, for Civil Engineering and Military Tactics. The course of study is being continually improved, and students there are required to work. The increased size of the classes proves the growing estimate in which this college is held. One of the members of this year's graduating class, Mr. E. A. Apgar, was elected, some months before his graduation, to the high position of 'Superintendent of Public Instruction for the State of New Jersey.' This case is without parallel, and speaks well for Rutgers College, and for New Jersey. During the year a well-furnished observatory has been erected. An Alumni Hall is in contemplation, and the Rutgers Chapter of the famous Delta Phi Fraternity, have taken steps for the erection of a Delta Phi Hall.

—From the annual report of Mr. Sears, the City Superintendent of Schools in Newark, it appears that last year the whole number of pupils in attendance during the year was nearly twelve thousand (11,945), being a considerable increase over that of the previous year. The average daily attendance was 85.5 per cent., or a little more than two per cent. better than during the year 1884. The per centage of attendance in the different grades of schools, and which is believed will compare favorably with that of schools of like grades in any city in the country, was as follows: High School, 89.1 per

cent.; Grammar Schools, 87.5 per cent.; Primary Schools, 85.9 per cent.; Colored Schools, 67; Industrial Schools, 87. In the High School the whole number enrolled during the year was three hundred and ninety-nine—an increase over the previous year; the average number enrolled in the male department having been eleven greater than during the year 1864, and in the female department twelve greater.

During the period of eleven years which has elapsed since the opening of this school, the number of pupils admitted has been as follows:

Pupils in the male department, 1,084. Pupils in the female department, 1,117; making a total number of 2,191.

For the maintenance of the system during the year there was expended the sum of \$81,822.71—making an average cost of tuition per pupil, excluding the Normal and Evening Schools, and including teachers' wages, fuel, books, insurance, rents of the Primary School-rooms, and incidentals—of only \$12.88 per annum.

**PENNSYLVANIA.**—The Hicksite branch of the Society of Friends at Philadelphia are erecting a spacious college at Westdale, for the education of their own children. It will cost \$300,000.

—The family of Mr. Crozier, of Chester, have given in trust to the Baptist Publication Society \$50,000 as a missionary memorial for the literary and theological instruction of freedmen by means of books and missionaries.

—Last summer Hon. Asa Packer, of Mauch Chunk, donated \$500,000 toward building and endowing an institution to be located at Bethlehem. Preparations for erecting the building are in progress. When finished it will present a front of two hundred feet, and, if the expectations of its projectors should be realized, will be the finest building in Pennsylvania.

#### WESTERN STATES.

**OHIO.**—The Board of Education of Cincinnati have raised the salaries of teachers in the public schools of that city ten per cent.

—The total attendance this year at Oberlin College is seven hundred and seventy, of which four hundred and twenty-five are gentlemen. Of the whole number two hundred and sixty-one are new students. Last term a new Ladies' Boarding Hall opened with rooms for one hundred ladies, and table accommodations for a like number of gentlemen in addition. The building is handsomely finished, containing parlors, reception-room, library, and society-room. An effort is being made to raise \$150,000 to complete the endowment and to erect two new buildings, one for recitation-room and one for philosophical-room, laboratory, and museum. Over \$20,000 are

already secured. The prospects of the college were never more promising. General G. W. Shurtliff, late tutor, has been made Associate-Professor of Language. In September, Judson Smith, A.M., a former tutor in Oberlin, now teacher of mental philosophy and mathematics in Williston Seminary, Mass., will return to Oberlin as Professor of Latin Language and Literature.

—The students of the Ohio Wesleyan University, at Delaware, Ohio, have given to the college an aggregate subscription of \$10,200, and hope to increase the amount. As few of the students are wealthy, the subscription is extraordinary, and the individual contributions in some cases amount actually to a mortgage on future labor for several years. The alumni of this institution have begun the endowment of a chair, and their subscription already amounts to \$6,000. The faculty have subscribed \$2,600, or more than twenty per cent. of their entire salary for a year.

**INDIANA.**—The school-fund amounts to \$7,618,490.86. All unclaimed fees in the hands of sheriffs or justices of the peace, fines for penal offences, forfeitures of bail, excheated estates, and moneys found on unknown dead persons are paid into this fund. The amount of common revenue apportioned in April was \$1,004,237.49 for 552,244 children between the ages of six and twenty-one years.

—The State Normal School is to be located at Terre Haute. The appropriation for building is \$50,000, besides the grounds worth \$25,000. The foundation will be laid during the coming autumn, and the Normal School Board hope to open the institution in the autumn of 1867.

—Indianapolis has ten schools, with 2,351 pupils; average attendance, ninety-three per cent. The teachers' salaries range from \$375 to \$1,200; the superintendent receives \$1,500.

—Vincennes has nine teachers, with five hundred and ninety pupils. The teachers' wages for the year ending April 1st, 1866, amounted to \$2,170.

—The faculty and students of Indiana Asbury University have pledged \$6,500 as a centenary offering to the institution.

—The National Convention of State, County, and City Superintendents will be held in Indianapolis on the 18th of this month. At the same place the Convention of normal Professors and Teachers will be held on the 14th instant, and on 15th, 16th, and 17th inst. the National Teachers' convention.

**ILLINOIS.**—Flavel Moseley, a native of Hampton, Connecticut, who died recently at Chicago, bequeathed \$10,000 for a "Moseley Public School Book Fund," \$10,000 to mission-schools, and \$20,000 to the "Chicago Home for the Friendless."

**CALIFORNIA.**—The school session for children under eight years of age is, by a recent change, limited to four hours per day.

—The San Francisco Board of Education are making strenuous efforts to accommodate the city children. Since April 1st 586 pupils have been admitted, making the total amount at present 2,414.

### SOUTHERN STATES.

**MARYLAND.**—The number of pupils now in the Baltimore Manual Labor School is thirty-seven. The average number in attendance during the past year was fifty. The building is capable of accommodating one hundred, but the funds of the institution do not authorize such an increase in the number of pupils. The school is supported by public contributions.

**VIRGINIA.**—At Richmond there is now a free school for whites, the only one in the State. It is modelled after the grammar-schools of New York and Boston, and includes a school for boys, a school for girls, and a mixed school for beginners of both sexes. The boys' school contains seventy-eight pupils, and is under the charge of Miss M. J. Miles, of Waltham, Mass.; the girls' school, Miss S. E. Foster, of Waltham, teacher, has seventy-six pupils; and the primary department, under Mr. Hovey and Miss C. R. Thorp, of Philadelphia, is attended by two hundred and twenty-five pupils. The schools are filled to repletion, and numerous applications for admission are made daily.

—The prospects of Washington College, under the direction of General Lee, are very cheering. The endowment has been raised to \$145,000, and it will soon be further increased. The number of students is one hundred and forty.

—The University of Virginia is said to be in a very flourishing condition, and two hundred and fifty-eight students are in attendance. At a recent meeting of the Trustees of Hampden Sidney College, Colonel B. S. Ewell, President of William and Mary College, was chosen to fill the chair of mathematics.

**DISTRICT OF COLUMBIA.**—The series of school-readers used in the public schools of Washington being an abolition publication, in that it contains Mr. Lincoln's speech at Gettysburg, an effort is being made to have it thrown out and to introduce a series prepared for the Southern market, with careful omission of all reference to the recent war.

**SOUTH CAROLINA.**—Two of the Episcopal churches of Charleston are making a united movement for educating colored children, and already have six hundred scholars under their care.

**ALABAMA.**—Freedmen's schools are in

successful operation in fifteen large cities, and are attended by more than 10,500 pupils. In some of the white churches colored children are taught under the superintendency of the pastors. At Demopolis the citizens have contributed of their funds to aid in the erection of a school-house for colored people. The mayor of Tuskegee is said to have charge of a large Sunday-school for blacks.

### FOREIGN.

**CANADA—UPPER.**—The lists of McGill University show that there are in all nine hundred and thirty-six persons directly receiving instruction at the University; of these three hundred and six are entered in the faculties of law, medicine, and arts. At its late convocation sixty-six gentlemen were graduated. Victoria University has two hundred and eighty-two students. The matriculation and university courses have been somewhat extended. Forty-eight gentlemen have just been graduated.

**ENGLAND.**—Trinity College has fallen heir to between \$306,000 and \$350,000, under the will of Dr. Whewell, the late master. It is to make provision for the establishment of a professorship of international law in the University. The appointment of the Rev. William H. Thompson, M. A., as Master of Trinity College, is gazetted.

—The great schools are thus compared: At Eton, 82 masters teach 806 boys; at Winchester, 12 teach 200; at Westminster, 9 teach 186; at Harrow, 23 teach 481; at Rugby, 19 teach 468.

—Mr. Spurgeon's college in London for raising up preachers seems to have become a fixed institution. Already about one hundred and twenty have gone out from it and entered upon their work in various parts of England, and the number of those now in preparation is nearly one hundred. Regarded as a system of intellectual education, the training here afforded is brief and superficial. The aim, however, is only to take men of peculiar gifts and to prepare them for extemporaneous preaching.

—The Liverpool corporation schools educate two thousand one hundred and fifty children at a cost of \$2,800 per annum.

—The educational report, presented to the Prefect of the Seine by the French commission, contains this passage: "The Universities of Edinburgh, Glasgow, and Aberdeen, neither possess the aristocratic character of the English universities, nor impart equally solid instruction. The reason is, that most of the students belong to the middle or humbler classes, and come up to the university after hasty and very imperfect preparatory studies.

—The number of new entrants into the Scotch Training Colleges exhibits a slight falling off as compared with the last year.



The most noticeable feature is the very large increase among those who have not been pupil-teachers.

**FRANCE.**—Formerly only those books which had been sanctioned by the authorities might be used in the National Schools: now, if the consent of the rector or academic head of the district be previously obtained, teachers may introduce any book which has not been expressly forbidden.

—With a population of 40,000,000, France expends only \$1,400,000 on primary schools, while the State of New York, with less than 4,000,000 inhabitants, expends \$4,400,000. In France many excellent teachers receive only \$80 per annum. It is not surprising, then, that the government reports 884,000 children between seven and thirteen years of age as receiving no instruction whatever. The number of illiterate persons is estimated by educational journals to be not less than 2,500,000. In view of this fact, they urge the establishment of adult classes, as far as possible.

—A prize of four hundred francs is offered by the Educational Society of Lyons for an essay to determine how far the want of success in children's education is due to their parents, and how far to the schoolmaster. The essays may be written in any language.

—Next year the French Academy will celebrate its two hundredth anniversary.

**ITALY.**—At the suggestion of M. Berti, the new Minister of Public Instruction, a National School Society has been formed. Its object is to promote popular instruction by training teachers, male and female, by contributing toward the erection of new schools, by aiding intelligent teachers and awarding prizes to those who achieve eminent success, by publishing books for the people, and by founding educational museums, school-libraries, and libraries for the people. To encourage local liberality, it is declared that two-thirds of all local contributions shall be spent on schools of the locality; and that of the remaining third, one-half shall be disposed of by the provincial committee to which the locality may belong, and the other half remitted to the central committee sitting in the capital. This central committee is to select books for publication, to publish a journal, and to appoint inspectors of the society's schools. Means are to be taken to render diplomas, granted to teachers by this society, of equal legal effect with those granted by the state.

**PRUSSIA.**—In this kingdom there are about two hundred and twenty-five Reformatory Institutions in successful operation. Nearly all have been established since 1848, and a large number are in charge of Brothers of the Rauhe Haus. Besides these permanent institutions there are numerous associations for the care of vagrant children.

These do not place children in *Rettungsanstalten* (or Houses of Refuge), but put them out to private families and exercise a vigilant care over each one of them.

**GERMANY.**—The Fourteenth Congress of the Schoolmasters of Germany has just been held at Mannheim. Among the questions discussed were the best methods of developing memory in children; the means of awakening in them a love of country; the advantages resulting from a larger share being given to gymnastic exercises in education; the study of music, especially of national songs; the necessity of teaching children, with the greatest care, the history of their country, and especially the great deeds and victories of the German people, etc. There are now in the different German States sixty-three educational periodicals.

**WURTEMBERG.**—Thirty-six reformatories and orphan asylums are in existence. Among them are twenty-three *Rettungsanstalten*, of which fifteen have at present eight hundred and seventy-six children under their care. The expenses of these institutions in 1864 amounted to thirty-four dollars per head. The Central Committee of Benevolence for the kingdom, established in 1816, reported as under its supervision, 180 Infant Asylums, with 10,000 children; 1,409 Industrial Schools, with 65,000 children; 23 *Rettungsanstalten*, with about 1,200 children; 11 societies for the care of vagrants in private families; 1 Institute for Juvenile Delinquents; 1 Deaconess Institution; and one training school for female teachers in infant-schools. The agricultural schools of Wurtemberg begin their work after the reformatories have finished. They take twelve or fifteen boys from the latter and put them either on some farm belonging to the Government, or into the family and under the care of an experienced Christian farmer. The latter has the control of the boys, and the benefit of their work, but must clothe and feed them. Besides the opportunity thus afforded to become good farmers, the boys get regular instruction in elementary branches.

**SWEDEN.**—In 1859, a royal decree empowered women to teach in primary government schools; and this measure has proved so beneficial that the Diet is now considering a proposal for opening to women, not only the higher departments of teaching, but also the medical career. In Stockholm, particularly, almost all the gratuitous elementary schools for both boys and girls are taught by women, at salaries varying from \$200 to \$250 per annum.

**RUSSIA.**—Regulations have been issued by the Russian Government for the introduction of a new system of public instruction in Poland. The language used in the

different schools as a medium of instruction will be that of the majority of inhabitants of the district, whether Polish, Russian, German, or Lithuanian. Spiritual instruction will be imparted by the secular clergy of the different religious persuasions; and the Polish, together with the Russian language and history, will be taught in all the schools of the kingdom.

Female education is to be taken out of the hands of the clergy, and normal schools are to be established, with teachers of both sexes. To secure the strict observance of these regulations a board of directors has been instituted, which will superintend the establishment and see that order is preserved, and that every effort is made to secure the progress of the pupils.

## CURRENT PUBLICATIONS.

**D**R. J. W. DRAPER,<sup>1</sup> at the request of his friends, has prepared an abridgment of his large work on physiology, and offers it as a text-book for schools and colleges. We think the abridgment no more fitted for schools than the treatise itself. It treats only of physiology, and, therefore, requires of the pupil a previous knowledge of anatomy. It is altogether too comprehensive for ordinary students, but will be an excellent text for medical students and members of the higher classes in college. Teachers will find it an excellent book of reference; it contains, in convenient form, the pith of what can elsewhere be found only in large octavos, and the author is regarded as high authority in chemistry and physiology.

THE numerous editions through which Dr. Otto's grammars have passed in Germany and in this country, and the fact that they are used in Harvard and Trinity Colleges, the Free Academy in New York, and King's College, Nova Scotia, is presumptive evidence of their excellence.

They are particularly clear in their arrangement and statement. The rules are definitely expressed, and the lessons and exercises are progressive in character. The French grammar<sup>2</sup> unites the best qualities of Ollendorf and Fasquelle, with the additional advantage of being much more brief. It is especially rich in idiomatic expressions, and is admirably adapted to teach the speaking of French. Part First

treats of the parts of speech and their inflection, and the construction of simple conversational sentences. The excellent exposition of the irregular verbs is to be noticed. In Part Second the syntactical relations of words are shown, and many special and idiomatic uses. The whole is completed by a vocabulary.

The German Grammar<sup>3</sup> is on the same general plan. We noticed the excellent manner in which the genders and declensions of nouns are treated. The verbs, too, are introduced early and fully, and there are copious exercises on the irregular verbs. Reading-lessons are interspersed throughout the book, and at the end is a selection of some of the finest pieces of modern German poetry.

Before Mr. Cuore's Italian Grammar<sup>4</sup> appeared there was no manual of the Italian language accessible in this country that was not grossly defective. With this it is possible to learn that beautiful language with ease and pleasure. This grammar fills a great want, and is an excellent introduction to the tongue of Dante and Boccaccio.

Few metaphysicians have exercised so great influence upon their generation as John Stuart Mill. Chief in the Positive or Sensational School, he lately published an examination into Sir William Hamilton's system of intuition, or *a priori* truth. In this work he attacked the system, not

(1) A TEXT-BOOK ON PHYSIOLOGY. For the use of schools and colleges. By JNO. WILLIAM DRAPER, M. D., LL.D. 150 engravings. New York: Harper & Brothers. 12mo., pp. 576, \$1 50.

(2) OTTO'S FRENCH CONVERSATION-GRAMMAR. Revised by FERDINAND BOCHER, instructor in French at Harvard College. New York: Leypoldt & Holt, 1866. 12mo., pp. 306, cloth, \$1 75.

(3) GERMAN CONVERSATION-GRAMMAR. A new and practical method of learning the German language. By Rev. Dr. EMIL OTTO. 12mo., pp. 502. New York: Leypoldt & Holt, 1866. Cloth, \$2.

(4) ITALIAN CONVERSATION-GRAMMAR. By L. E. CUORE. 12mo. pp. 270. New York: Leypoldt & Holt, 1866. Cloth, \$2.

merely with the energy of an opponent, but also with the venom of one desirous to avenge private injuries; for Hamilton never acknowledged any merit in James Mill's writings, of which J. S. Mill complains in his work. The caustic style and energetic reasoning of the "Examination," led many to regard the *a priori* school as overthrown, and one of the London reviews modestly remarked: "The followers of Hamilton may buy the monument for his philosophy and write its epitaph, for its work is done." The *a priori* school, however, does not accept this decision, and Dr. McCosh\* has published an examination of Mr. Mill's philosophy, in which he defends intuitive or fundamental truth as the true basis of a system, but does not wholly support Hamilton, to whose system he has in previous works taken many and serious objections. The main effort is to destroy the system of Mr. Mill, which he looks upon as mere empiricism and utilitarianism. In Chapter III. he lays the axe at the root of the matter by showing the self-contradiction of the positive school, which he there proves to rest, not upon sensations, as its defenders assert, but upon intuitive principles freely accepted and admitted by Mr. Mill, but not pursued by him to their consequences. In another portion of the work Dr. McCosh argues earnestly against the materialistic tendency of the sensational system, and offers a noble defence of the Christian religion against the aspersions of Comte, Mill, and other Positivists.

Few works equal to this have yet appeared in defence of fundamental truth. It is well fitted to counteract the skeptical and speculative philosophy of the day, and to increase respect for true Christian philosophy. Although essentially metaphysical, yet it is adapted to the wants of the general reader, and cannot fail to advance the author's reputation among many to whom his previous works, more technical in language, were as sealed books. The argument is marked by sound reasoning and vigorous common sense, and is expressed in an attractive style. The whole is manly, unmarred by any display of personal bitterness, or by appeals to the readers' prejudices.

PHYSIOGNOMY, as a system, owes its origin to the ingenuity of Lavater, who, in 1778, published his celebrated "Fragments." Others, among them some eminent scientific men, have since written upon this subject; but the majority of works are superficial or purely speculative. The most recent treatise is that of Mr. Wells, which, though less original, is more practical and popular than any preceding it. By most writers the term Physiognomy is restricted to study of the mind through the countenance; but Mr. Wells uses it in a wider sense, and regards every part of man as an aid in forming a just conception of character.\* In working out his system he has produced an interesting work, in which he contrives to give important information on many topics besides Physiognomy. It is a digest of ethnology, it gives us the symptomatology of insanity, it treats of physiology and hygiene, and incidentally of zoology. The chapter on grades of intelligence is instructive, and that on comparative physiognomy is exceedingly entertaining. The work is embellished with numerous portraits of distinguished men, and contains many *fac simile* autographs. It is a useful book, and we view it as a worthy addition to our library.

THE "Memoirs of a Good-for-Nothing" is a characteristic novel of the romantic school of Germany, which was inspired by the restoration and imitation of the arts and literature of the middle ages. In it the hero tells us his early history, his wanderings and his unique adventures, yet nowhere gives us his name or that of any leading personage in the story. He does not describe his personal appearance, yet so artfully hints concerning it that we are firmly convinced that he possesses a strikingly beautiful presence. The "Good-for-Nothing" is clearly a shiftless person, with no large share of worldly wisdom, but so fascinating and so good-humored amid all circumstances, that good luck seems never to forsake him. The plot is simple, the hero meets with no extraordinary misadventure, and the narrative is told in a natural

\* AN EXAMINATION OF MR. J. S. MILL'S PHILOSOPHY: Being a Defence of Fundamental Truth. By JAMES MCCOSH, LL.D. New York: Carter & Brothers. 8vo, pp. 424, 33.

(5) NEW PHYSIOGNOMY, OR SIGNS OF CHARACTER. By SAMUEL R. WELLS. New York: Fowler & Wells. Crown 8vo, pp. 768, 25.00.

(7) MEMOIRS OF A GOOD-FOR-NOTHING. From the German of J. VON RICHSDORFF. By CHARLES G. LELAND. New York: Leypoldt & Holt. 16mo, pp. 192, 32.00.

and ready manner, reminding one somewhat of the "Easy Writer." The story seldom causes a laugh, but a vein of quiet humor pervades the whole, and renders it exceedingly pleasant reading. It is the more interesting to us, in that it gives us a clear view of the free and rollicking artist-life of Germany. It is just the book for a summer day, light and entertaining, yet indirectly instructive. The translator has rendered it into excellent English, and the publishers have got it up in an elegant manner.

The *American Journal of Education* for June contains: I. Pennsylvania System of Normal Schools; II. The Oswego Nor-

mal and Training School; III. Advice on Studies and Conduct; IV. National Teachers' Association; V. Educational Duties of the Hour; VI. Object Teaching; VII. State Normal School System; VIII. Education as an Element in the Policy of Reconstruction; IX. National Educational Bureau; X. American Educational Association; XI. Formation of Character the Main Object of Education; XII. Home and School Training One Hundred Years Ago; XIII. Public Instruction in Austria; XIV. State Educational Conventions and Associations; XV. American and National Conventions and Associations; XVI. Educational Miscellany and Intelligence. Price, single number, \$1.25.

## MISCELLANY.

—It is a fact known to philosophical instrument makers that if a metal wire be drawn through a glass tube, a few hours afterward the tube will burst into fragments. The annealed glass tubes used for the water-gauges of steam-boilers are sometimes destroyed in this way, after the act of forcing a piece of cotton waste through them with a wire, for the purpose of cleaning the bore. This will not happen if a piece of soft wood is employed. The late Andrew Ross once stated that on one occasion, late in the evening, he lightly pushed a piece of cotton wool through a number of barometer tubes, with a piece of cane, for the purpose of cleaning out any particles of dust. The next morning he found most of the tubes broken up into small fragments, the hard silicious coating of the cane proving as destructive as he had previously known a wire to be. In these times, when glass lamp-chimneys are in such wide use, it is of no little importance that this fact should be made known.

—Photography in colors has progressed so far, that a doll dressed by the operator can be perfectly reproduced on the plates. A greater triumph is photographing a peacock's feather. It has been found that none but pure colors take well, those that are made by a mixture of two primary colors giving but one of the primaries on the plate. These photographs will not stand a full light long, as they turn brown, but may be preserved in an album.

—Dr. C. R. Von Hoyer has found that an alloy of cadmium, 224 parts; lead, 517.5; tin, 295; and bismuth, 1,050, will

melt at 149.9° F. An alloy of cadmium, 2, and 4 each of tin, lead, and bismuth, fuses at 158.5°. An alloy of cadmium, 1, with 2 each of the others, or an alloy of one part of each of the four metals, fuses at 155.8°. They all become pasty at lower temperatures, and all oxydize rapidly in water.

NEW AND SIMPLE MODE OF REPRODUCING DRAWINGS, ETC.—The drawing having been made with a solution of gum, glue, varnish, or any other fluid which will impart hardness, it is transferred to a plate of plaster of Paris, chalk, or any thing else that is easily pulverized. This plate, having been allowed to dry, is brushed until the material between the lines of the drawing, which is not affected by the process, is removed to a sufficient depth; after which, it is immersed in gum, or glue, to harden the entire surface. The result is an admirable copy of the drawing in relief, and from this a *fac-simile* in metal may be obtained in the usual way.

—A Baptist minister visiting the oil region in Kentucky, found actively engaged in the work of getting petroleum, one of his brethren, who insisted that it was a Scriptural occupation, Job having been in the oil business. Some doubt being expressed at this novel statement, he got a Bible, and, turning to Job 29: 6, read: "The rock poured me out rivers of oil." "Now," says he, "what use do you suppose Job had for three thousand camels and five hundred yoke of oxen, unless it was to carry his oil to market? He certainly did not need that number for farming. As they had no railroads then, he

needed them if he had a flowing well of oil."

—It is said that the Buena Vista Vineyard in Senora County, California, is the largest in the world. It consists of 6,000 acres, with 272,000 vines planted previous to 1865, and 700,000 planted, or to be planted this year. Last year the yield was 42,000 gallons of still wine, 60,000 bottles of sparkling wine, and 12,000 gallons of brandy. One hundred men are constantly employed, and double that number during the vintage. There are 8,000 fruit-trees, and large varieties of grapes.

—The city of Lyons consumes annually two million of pounds of spun silk. Four cocoons and a fraction are necessary to produce a gramme (the five hundredth part of a pound); consequently the consumption of Lyons alone requires 4,200,000 cocoons. The length of silk thread in each being about 500 metres, the total is equal to 2,100,000 millions of metres, which is fourteen times the distance of the earth from the sun, or 5,494 times that of the moon from the earth. That length would encircle the globe at the equator 52,505 times, or reach 200,000 times round the moon.

## INVENTIONS FOR SCHOOLS.

**THE DESK SETTEE.**—In most of our schools, both public and private, the opening exercises, examinations, and receptions are usually conducted in the principal room, where all the pupils are assembled. As these rooms are commonly furnished with ordinary settees, to accommodate the largest number possible, they are almost useless except for just such occasions.

D. J. STAGO, Esq., New York city, has recently invented **THE DESK SETTEE**, which fully remedies this great difficulty and loss.

The construction of the Desk Settee is such that it may be easily transformed from a Settee to a Writing Desk, or *vice versa*, by any boy or girl. The seat-board D, in figure 2 of the illustration on the next page, is turned upward to form a Desk, as shown at C, in both figures. The plan is so simple and effective that, in a moment, an *Assembly or Lecture Room* may become a busy school-room, furnished with seats and desks, in alternate rows; and *requiring but little more material and expense than for ordinary seats alone*. For country school-houses, which are sometimes used for religious meetings, this invention seems invaluable.

Behind each row of Desk Settees may be an ordinary seat, but to give uniformity in appearance the **FOLDING SEAT SETTEE** is recommended to accompany. When not in use this seat may be turned against the back, to allow additional space for passing, for gymnastic exercises, marching, or for the purpose of sweeping the room.

In many villages and towns where Public Halls or Lecture Rooms are desirable,

but cannot be afforded on account of the *expense*, the introduction of the Desk Settee would contribute largely to their support, for the same room could be used for school purposes during the day, and for lectures in the evening, without the trouble of removing desks and seats.

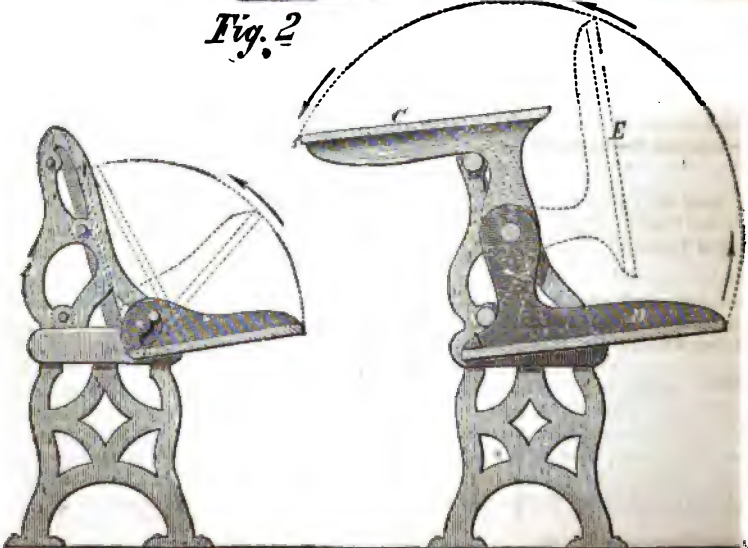
The side frames, or stanchions, and the pieces to which the seat boards are attached, are of cast-iron. The seat boards and backs of those now used in our city schools are of cherry-wood, but they can be made of any other wood that may be desired. The Settees are made of different heights, ranging from 11 to 16 inches in height of seat; and by use of intermediate stanchions, they are made in sections of 4 to 5½ feet each, and may be extended to any length required.

The merits of this invention seem to be readily appreciated. The Desk Settees are being rapidly introduced into the public schools of New York city. Though but recently patented, they are already used in twenty-four assembly-rooms in the city; among them are those of Grammar Schools Nos. 1, 8, 15, 17, 40, 45, 49, 54, 55, and Primary Schools Nos. 8, 10, and 86. It is also in use in the Normal School at Oswego, N. Y.; in the public schools at Yonkers, N. Y.; at Hudson City, N. J.; also in the Hall and School at Webster, Missouri. In all cases they give perfect satisfaction, because of their real convenience, economy, and durability. See cuts on next page. Specimens of this furniture may be seen at the publication rooms of the MONTHLY, 480 Broome-street, N. Y.

Fig. 1



Fig. 2



Principals, School Officers, Heads of Families, and others who seek well-qualified Teachers, should fill "Form of Order for Teacher," and send it to the New York office of "AMER. SCHOOL INSTITUTE."

## "American School Institute," founded 1855.

IS A RELIABLE EDUCATIONAL BUREAU:

1. To aid all who seek well-qualified Teachers; | 3. To give parents information of good schools;
2. To represent Teachers who desire positions; | 4. To sell, rent, and exchange school properties.

J. W. SCHERKNERHORN, A. M., Actuary, No. 430 Broome St. (near Broadway), New York.

H. J. YOUNG, Secretary.

G. M. KENDALL, Treasurer.

More than ten years' trial has proved the "AMERICAN SCHOOL INSTITUTE" to be a useful and efficient auxiliary in the Educational Machinery of our country. Its patrons and friends are among the first educational and business men. Its central office (in New York) has been removed to larger quarters, where greater facilities will be afforded in extending its usefulness.

### "The Right Teacher for the Right Place."

Information of teachers will be furnished, which shall embrace—Opportunities for education; special qualification for teaching; experience, where, and in what grade of schools; references; age; religious preferences; salary expected; specimen of candidate's letter, and sometimes a photographic likeness. Unless otherwise advised, we nominate several candidates, and thus give opportunity for good selection.

Terms: Two Dollars, upon giving the order for the Teacher. When a teacher is accepted, Three Dollars additional. Postages used in corresponding with Principals, and in their behalf with candidates, will be charged. When we are required to incur extra expense and assume unusual responsibility in selecting and examining a rare Teacher, we must make corresponding charges. No charge to Public Schools, except the preliminary fee and postage.

Principals, School Officers, and Heads of Families, should give early notice of what Teachers they may want. Teachers who want positions should send for "Application Form." Testimony for the "Amer. School Inst." from the highest educational and business authorities will be sent when required.

## Form of Order for Teacher.

(1) Full name and full post-office address of the person who wants the Teacher.....

(2) Do you want a Male or Female Teacher? Married, or Unmarried?.....

(3) What branches must be taught?.....

(4) When must the Teacher begin?.....

(5) What salary will you pay? Will you furnish Board? Do you pay Travelling Expenses?.....

(6) Do you prefer the Teacher to be a member of some Church? Of what Church?.....

(7) Remarks.....

# Teachers' Bulletin.

Teachers who wish positions should send for "Application Form." The MONTHLY is taken by sending Principals and School Officers hence a representation in this Bulletin is most efficient.

## Ladies—English, Mathematics, French, Latin, Drawing, etc.

- 433—Grad. Troy Sem.: exp. 4 yrs.; Eng., Maths., Latin & French; Quaker; \$300 and Home.  
 444—Grad. Brooklyn Heights Sem.; finished in Europe; Eng., Maths. & French; Quaker.  
 455—Grad. Kimira Coll.; exp. 3 yrs.; French, Spanish, German, Italian, Latin, Nat. Sciences, Maths. & Drawing; Presbyterian; \$400 & Home.  
 456—Grad. Castleton Sem.; exp. 1 yr.; Eng., Maths., Latin, French, German & Drawing; Congregational; \$400 and Home.  
 457—Grad. Miss Anabel's, Philadelphia; Eng., Maths., Drawing & Rud. Piano; Episcopalian.  
 458—Grad. Catskill Acad.; exp. 3 yrs.; Eng., Maths., Drawing & Rud. French & Latin; Presbyterian; \$300 & Home.  
 459—Grad. R. L. S. Nor. Sch.; exp. 3 yrs.; Eng., Maths., Writing, Singing & Piano; \$300.  
 461—Ed. Mt. Holyoke; exp. 8 yrs.; Eng., Maths., Science & Painting; Presbyterian; \$250 & Home.  
 462—Ed. Mt. Holyoke; exp. 3 yrs.; Eng., Maths., & French; \$250 and Home.  
 474—Grad. Genesee Coll.; exp. 3 yrs.; Eng., Maths., Classics, Science, French & German; \$300 and Home.  
 475—Grad. Hartford H. Sch.; Eng., Maths., Science, Literature; Congregational; \$300.  
 477—Grad. Foughkeaspe Fem. Coll. Inst.; exp. 3 yrs.; Eng., Maths. & Latin; Methodist; \$300 and Home.  
 482—Grad. Fort Edward Inst.; exp. 3 yrs.; Eng., French, Latin, Drawing & Painting; \$300 and Home.  
 483—Ed. Mt. Holyoke Sem.; exp. 1 yr.; Eng., Maths. & Latin; \$300 & Home.  
 484—Ed. Kimira Sem.; exp. 3 yrs.; Eng., French, Piano & Singing; Episcopalian; \$700—\$85 & 300 wish to go in same Seminary.  
 485—Ed. Hudson Acad.; exp. 5 yrs.; Eng., Maths., Latin & Rud. Piano & Singing; Presbyterian.  
 492—Grad. Genesee Coll.; exp. 3 yrs.; Eng., Maths., French & German; Methodist; \$300 and Home.  
 493—Grad. Portland H. Sch.; exp. 1 yr.; Eng., Maths., Latin, French, Drawing & Painting; New York City only.  
 494—Grad. Lawrenceville Acad.; exp. 1 yr.; Eng., Maths., French, German, Drawing and Painting; Congregational; \$600.  
 495—Grad. Mt. Holyoke; exp. 10 yrs.; Eng., Maths. and Latin; Congregational; \$600.  
 496—Ed. N. J.; exp. 2 yrs.; Eng. and Maths.; \$300.  
 497—Ed. Rutgers; exp. 2 yrs.; Eng., Maths., Drawing, Painting and Rud. French; Congregational; \$300 and Home.  
 498—Grad. Charleston H. Sch.; exp. 2 yrs.; Eng., Maths. and French; \$300.  
 499—Ed. Vt.; exp. 1 yr.; Eng., Maths., Latin & French; Dutch Reformed.  
 500—Grad. Nova Scotia Nor. Sch.; exp. 1 yr.; Eng. & Maths.; Methodist; \$300.  
 501—Ed. Bethelham Sem.; exp. 5 yrs.; Eng., Maths., French & German; Moravian.  
 502—Grad. N. Y. S. Nor. Sch.; exp. 5 yrs.; Eng., Maths. & French; Presbyterian; \$300.  
 503—Ed. Eden Hall; exp. 1 yr.; Eng. French and Rud. Piano; Episcopalian.  
 504—Grad. Troy H. Sch.; exp. 4 yrs.; Eng., Maths. & French; Universalist; \$350 and Home.  
 505—Grad. Washington Sem.; exp. 5 yrs.; Eng., Maths., Drawing & Painting; Methodist; \$300.  
 506—Exp. 1 yr.; Eng., Maths., French, Latin, Piano & Drawing; Episcopalian.  
 507—Grad. Wilbraham Acad.; exp. 1 yr.; Eng., Maths. & Latin.  
 508—Grad. Freehold Sem.; exp. 2 yrs.; Eng. & Maths.  
 509—Grad. Mt. Holyoke; exp. 3 yrs.; Eng., Maths., & Latin; Congregational; \$250 and Home.  
 510—Ed. Utica Acad.; exp. 5 yrs.; Eng., Maths., Latin & French; Presbyterian.  
 511—Grad. P. S.; exp. 1 yr.; Eng. & Maths.; Episcopalian; \$300.  
 512—Grad. Mt. Holyoke; exp. 5 yrs.; Eng., Maths., Latin, Drawing & Painting; Congregational; \$300.  
 513—Grad. P. S.; exp. 2 yrs.; Eng. & Maths.; Methodist.  
 514—Grad. Pennington Sem.; exp. 1 yr.; Eng., Maths., Latin & Drawing; Methodist; \$300 & Home.  
 515—Grad. Foughkeaspe Fem. Acad.; Eng., Maths., Latin and French; Presbyterian.  
 516—Ed. Mt. Holyoke; exp. 1 yr.; Eng., Maths., Latin, Piano & Rud. Drawing; Presbyterian; \$300.  
 517—Exp. 2 yrs.; Eng., Maths., Latin & French; Baptist.

- 518—Ed. Ovid Acad.; exp. 3 yrs.; Eng. & Maths. Congregational; \$300.  
 519—Ed. Fred. August; exp. 2 yrs.; Eng., Maths., French, Drawing & Painting; Congregational.  
 520—Grad. Rutgers; exp. 1 yr.; Eng. & Rud. Piano and Singing; Episcopalian; \$300.  
 521—Grad. Telford Acad.; exp. 3 yrs.; Eng., Maths. and Drawing; Orthodox; \$250 and Home.  
 522—Grad. Newburg Sem.; exp. 1 yr.; Eng., Maths. and French; Methodist.  
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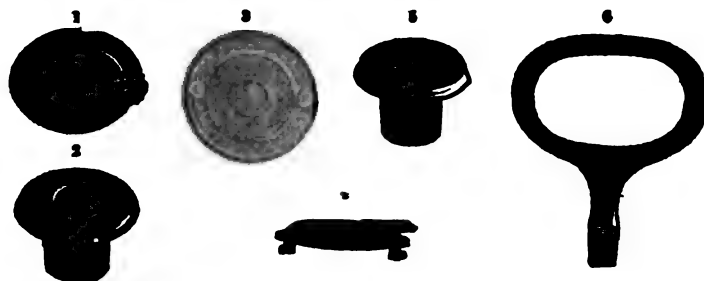


Fig. 1 represents top view of cover ; 2, top view of well without cover ; 3, bottom of cover ; 4, edge of cover ; 5, well complete ; 6, key to cover. The Ink Well (2) is inserted into desk through hole bored for the purpose, so that the flange (which is of larger diameter than the body) rests upon surface of desk, and is secured in place by screws inserted in countersunk holes. Flange of well has on its outer edge a lip, which alone rests on desk, leaving space within below interior part of flange. This space allows room in which pins projecting downward from lower side of cover may freely move. The pins have heads (as seen in 4), and are first inserted through apertures large enough to admit them freely in flange of well (as in 2). From these apertures extend, concentrically in opposite directions, curved slots, just wide enough to allow necks of pins to pass freely. Lower edges of these slots have slight inclination downward from apertures, so that as cover is turned the heads of pins become wedged against inclined surfaces, and draw cover closely upon well on which it fits tightly. Cover is fastened by key (Fig. 6).

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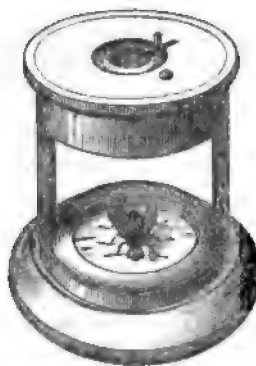
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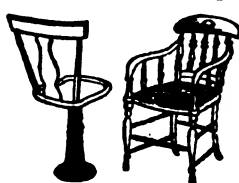
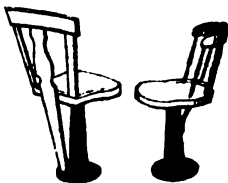
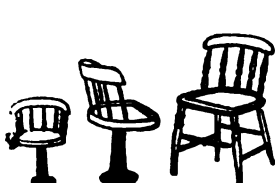
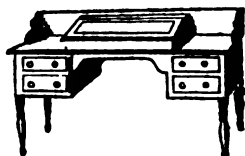
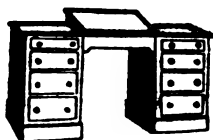
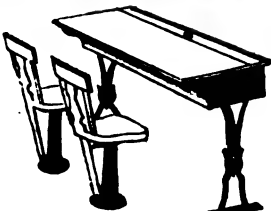
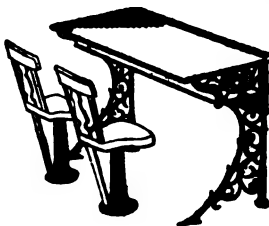
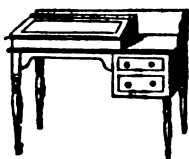
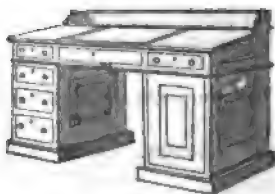
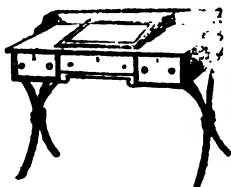
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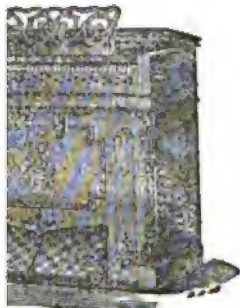
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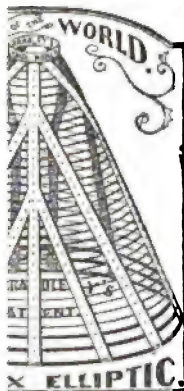
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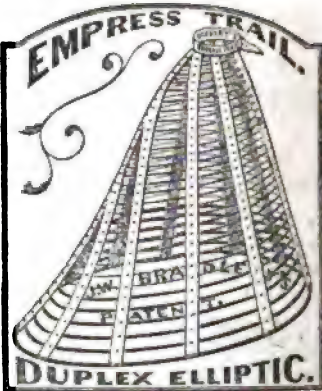
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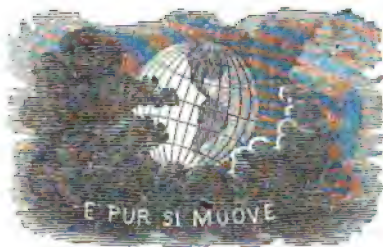


# AMERICAN Educational Monthly.

DEVOTED TO

Popular Instruction and Literature.

SEPTEMBER, 1866.



J. W. SCHERMERHORN & COMPANY, PUBLISHERS,

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 The **Monthly** for October will contain Part VI. of the interesting and valuable series of papers on Pedagogical Law—The Law as to Religion in Schools.

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# AMERICAN EDUCATIONAL MONTHLY.

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VOL. III.

SEPTEMBER, 1866

No. 9.

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## LIBERALLY EDUCATED.

WHO? One whom we all know; the minister of the country parish of —; a very good but insufferably dull man, unscholarly, ungenial; —, of whom it was evident, while he was in college, that he was making a great mistake in trying to fit himself for any one of the learned professions; and so it has since proved. He was kept plodding at his books because he was poor and because he was good; and now he takes his place among “liberally educated” men. That debauchee, hurrying on in his swift career of dissipation, strewing his way with curses, —, a disgrace to himself and to society. Don’t you and I remember how idle, vicious, and profane he was in college? But he was allowed to stay because he was rich—and rich men’s sons, you know, must be expected to sow their wild oats—and now he is one of our “liberally educated” men. That dapper gentleman, so neatly dressed, just going round the corner. He was the very weakest scholar in a very weak class; he never passed a college examination with any credit to himself; for if he ever answered a question correctly, it was all by chance or through the pitying charity of some fellow-student who sat near and prompted him; but now his lying diploma tells of him as a “liberally educated” man. He has even had the boldness, with his small stock of knowledge, to announce himself a teacher and open a school; he pleases fond parents of good families with bland words; they are so glad to have their children in the care of such a gentleman; they haven’t yet discovered the emptiness of his pretensions!

These illustrations are not overdrawn. There is not a college in the land but must enumerate many such cases among its graduates—and so many, that to be “liberally educated” in the popular sense of the term, while it may mean a great deal, has come to mean necessarily but very little. What should it mean to be “liberally educated?” Not, indeed, to have finished one’s education, for this is the work of a lifetime; but, at least, to have thoroughly mastered the elements of knowledge; to have attended carefully to the study of language, mathematics, and the natural sciences; to have gone, at least, as far in one’s investigations into other subjects as is denoted by the studies of a college course; and thus to be enabled to advance with the firm vigor of manhood into new and wider

fields of learning. We can gladly point to many who have in this way faithfully improved all the opportunities in their power ; and they exemplify what it should be to have received a "liberal education." But from looking at the *maximum* let us turn to the *minimum*, and ask, What is it to be "liberally educated?" that is, What is the least that is necessary? To have in some way got through the studies of the college curriculum ; perhaps knowing so little at the close, as to boast, as of some great achievement, of being able to decline *musa*, or to give the definition of a simple equation ; thus to get the name of having done what one has totally failed of doing, and to flourish the lie before the world with titles of degrees. How many college graduates are there who, through dissipation, idleness, or incapacity, very plainly manifested while in college, are thus pretending to be what they are not ! You may say that every one knows they are pretenders ; but this is not always true. Do they not go among strangers and build up success on false foundations ? Have not teachers, physicians, lawyers many times gone to the West, and with the reputation of being graduates of our higher institutions at the East, imposed upon communities, and gained a prosperity which has justly provoked surprise and indignation among those who knew them here ? If the diploma of an institution of learning be of any value, it surely ought to be a criterion for distinguishing between the educated and the ignorant. Whether or not it is, has come to be almost a superfluous question.

Though it is commonly regarded as far easier to detect faults than to suggest wise remedies, it seems to us that the way of reform in this important matter is comparatively plain. And let our words be as plain as the method we would propose. This is, as many may have anticipated, that our colleges in general set up a higher standard of mental and moral discipline ; that they exact conformity thereto, and give no alternative but dismissal. Are our words, "a higher standard," too indefinite ? Well, then, what we would require would be a more thorough understanding of the studies of the course, not of text-books only, but of subjects ; whoever could not understand, should be kindly dismissed, because of incapacity ; whoever would not understand, should be unconditionally thrown out, for laziness. And as the dead-weights of stupidity and idleness are nothing compared with the poison of immorality, so, too, there should be a removal of all, high or low, who were known to be dissipated or profane.

Some may say that all this is too severe ; but to such we reply : Where shall we draw the dividing line ? You cannot deny that there are many even in our best colleges who do not deserve to stay there a day ; whose blunders are making them a constant laughingstock, or whose dissoluteness is bringing burning shame upon themselves and all connected with them ; and who ought to be removed, if these ought not ? You may meet persons of a philanthropic turn of mind, who will argue that a college ought to keep and graduate all its very poor students—poor, intellectually,

we mean—on the ground that in this democratic age, with a government whose wise administration depends much on the intelligence of the people, every thing should be done to distribute as much knowledge as possible among the greatest number. This touches a broad question, whose merits we cannot here examine? but, owning the general truth of what we have just said, certainly if the honors and degrees of an institution of learning are to be conferred upon all alike, it becomes us to consider whether we are not educating the superior minds down to a lower level, rather than the masses up to a higher. Is not too much encouragement thus held out to those of little intellect to think that colleges and universities were made expressly for them? and are they not thus inspired too much with a conceit of their own knowledge, while the few really superior minds are trammelled and held back? Let the masses be instructed by all means, as far as their capacities will allow; but let there be richer harvests and higher honors ready for those who can take them. Let there be a wide difference made between those who are in truth thoroughly and liberally educated, and those who have gained at best but a smattering of knowledge. And, to make our hints practical, we would say that if there cannot be higher institutions—*really* higher, and not *nominally* nor *technically*—for the training of those who are to be the leading minds of each next generation, the colleges might at least refuse degrees to scores of their poorer students, who at the same time might give proof of sufficient ability to warrant their being encouraged to study. If truly educated men can think that there is no reform needed in this matter, we will retract all we have said—will call colleges schools, and schools “collegiate institutes;” and all teachers of whatever rank or grade, to the very lowest Dominie Sampson, we will join with the crowd in dubbing “Professors.” Henceforth, though, let no one name a distinction between higher education and lower, for mediocrity is to be the standard. But we do not seriously fear any such necessity as this; for we are confident that we have the sympathies of a very large number, in a desire for greater thoroughness in our colleges. And if the favor with which some would look upon dull students be misplaced, much more is that a mistaken charity which would put in the weak plea for those who are immoral and dissipated, that they should be allowed to remain, because they may, perhaps, by the force of good influences around them, be brought to a different life, and become as earnest for the good and the true as they have been for their opposites. This is dangerous ground; yet, we suppose, it must be the ground taken by many of our college faculties; for otherwise, why do they suffer those students to stay who are notorious among their fellows for dissipation, and with whose moral character it must be that they are themselves acquainted? Certainly, haggard looks at the morning recitation may tell of midnight revels; the glassy, vacant stare of those inflamed eyes can tell no lie; but how often, and in what college, do the proper authorities think it their

duty to investigate such cases as these ; or, where there is investigation, what does it amount to more than mere admonition ? Some violation of good order or direct insult to college government may receive due punishment ; while every-day habits of dissipation are too often overlooked, and moral character is neglected in the hope that some day it may, through right influences, be made better. We have meant to be truthful in what we have been saying. But sift our words from all possible exaggeration ; and then, when you consider how much of truth there is left, can you wonder why it is that so many parents cannot consent to place their sons in the midst of such temptation, and so forego for them the important advantages of a college course ?

But how came so many unworthy students in so many of our colleges ? Have they become what they are since they went there ? By no means all of them. If you could know the truth, it would be that too many were before confirmed in habits of idleness and vice ; and certainly that very many had never received any adequate mental preparation, and so ought never to have been admitted. We must go further back, then, to find a chief source of the evil—to the moral training of homes, and the mental and moral training of schools. Well, are the colleges to blame for this ? Not directly ; but indirectly, just as far as they foster such a state of things by granting easy entrance to those of whose morals they are suspicious, and whose knowledge of the subjects required is so superficial as to be hardly worthy the name of knowledge. If colleges were more strict in enforcing their requirements for admission, the schools would be more strict ; wherever there were ability on the part of teachers, they would see to it that those whom they sent to college did not bring double disgrace on themselves and on the schools, by being rejected ; and as for the great number of incompetent instructors who are at present pretending to fit boys for college, their services would be no longer in demand, and thorough schools would spring up in the place of shams. We are well aware that we have already said enough that is distasteful to some in this article, without going at length into the matter of the ignorance of the teachers ; we only state it to be our firm belief that there is a sad incapacity on the part of many of the teachers of youth in academies and preparatory schools. Some know enough, but have not the happy gift of communicating knowledge, so that to the learner it is no better than a dry and juiceless crust to his taste : others, and more frequently, have not themselves the knowledge they profess ; so, of course, what can they communicate ? Their words, however many, are not only useless but positively injurious.

We think it plain, then, that the schools and the colleges, as parts of a system of education, react upon each other ; that if the colleges are to be made better, the schools must send them a supply of more thoroughly prepared students ; and that if we look to the schools to raise their standard, it must be, in great measure, because the colleges have advanced theirs.

and so have obliged *them* to do so. We know that in this we are stating nothing new, but something, at least, apparently forgotten. How does any college deserve the name of a higher institution of learning, whose officers are so careful for the temporary prosperity of numbers, as to care more for the extent of its catalogue than for the thoroughness of its discipline? Still, keeping the higher motives in view, let any college be as thorough and uncompromising as we have been recommending, and though for a while its classes might be small, would it not before many years find that, even in point of numbers, it was achieving the surest success?

These, or considerations like these, which we have been presenting, have very likely occurred to many of late, in view of our highest educational interests. Of course, in so brief a paper as this we must omit many things of importance. We had meant to say a few words of the detestable practice of "hazing," so called, and the disgraceful fights between upper and lower classes: as in our two most celebrated colleges these things seem to be permitted as necessary concomitants of a liberal education. For we are greatly mistaken if the Faculty of Harvard have yet taken any efficient action to prevent this "hazing," with all its barbarities; and certainly it is no long time since there happened at Yale a most disgraceful fight between the sophomore and freshman classes. Such a state of things in our college life is a shame to our boasted civilization. Nor need it exist, if there were that vigor in all college government which there ought to be. We had meant, too, to urge the need of a course of study extending at least through five or six years, and somewhat more comprehensive than that in the academical department of the most of our colleges. As it is now, too much work is crowded into too little time; not, indeed, taking as a standard the actual degree of thoroughness among most college students, but that which ought to exist. But this and many other points we must leave undiscussed. If we may have only attracted attention to so important a subject, we shall be content

---

AN ERROR OF THE TIMES.—Dr. John E. Tyler, of the McLean Asylum for the Insane, in a recent report, alludes to the increasing number of persons who are carried to the asylum owing to overworked brains. He urges upon all the necessity of taking proper recreation, of being regular at meals, and asserts that "over-workers deceive themselves by the belief that they can bear more than others, or that they can bear what they are doing because they have so long borne it without breaking down." The overworked class which have come under the doctor's particular notice are merchants, professional men, and overtasked female scholars and teachers in our public schools. A few dollars less, a few cases passed over to beginners, or a little less study, would have kept many who are now inmates of asylums happy members of society.

## THE PUBLIC LIBRARY THE COMPLEMENT OF THE PUBLIC SCHOOL.\*

**T**HE public library is the natural complement of the common-schools.

The importance of maintaining these is universally acknowledged in the Free States, and we believe there is no ground of complaint against those of this city—at least none to which those of the most carefully provided cities are not also open. That intelligence lies at the foundation of free institutions is universally recognized, and the free-schools are the testimony the people bear to their faith in the doctrine. The best minds of the community are busy in devising how these nurseries of the future can be made to answer their purpose the most effectually; and constant advancement is making in the application of the science of mind to the art of its best development. And this should be so, for in the schools is contained the commonwealth in the very act of growth, and the inclining of the tree depends, so Pope says, on the bending the twig receives in that tender stage of existence. But when the common-schools have been brought to the highest degree of perfection possible to human institutions, we hold that society has not even then done its whole duty to the rising and the risen generation. The State should not forego its charge of its youth when the doors of the school-house close behind the grown-up young man and woman. The school, at best, can only teach the use of tools, and indicate whereabouts the material lies which is to be worked up for the nourishment, the development, and the adornment of the mind. Many young persons, of either sex, soon lose all taste for the studies which have occupied their pupilage, if they do not entirely forget them. The battle of life is too fierce a conflict to most of them to make it possible for them to go far out of their way, or to expend much of the sinews of their warfare on the continuing of their education. If they can make the trial, they find it hard to get the books and apparatus necessary for further self-cultivation.

For Gibbon never said a truer thing, than that every man who makes any mark in the world has had two educations—one from his teacher, and the other, and the more important, from himself. Now, surely, the system of public education on which we so justly pride ourselves, is not complete until the public provide the free means of carrying on this self-education after that of the school is finished. Facilities and means for doing this should be brought within the reach of all, even of the poorest, and of these the most of all. The fountains of knowledge should be opened to all, that all may come and draw the waters of moral and intellectual life freely without money and without price. All comers can not become

\* *The Nation*, June 26th, 1866.



learned men and women, but they may all become well-informed and refined ones ; and the public should give them all the opportunity. The prosperity and happiness of every community depend on the virtue, intelligence, and good manners of the individuals that make it up. Whatever promotes these three conditions adds to the material wealth as well as to the harmless pleasure of the body politic ; and nothing can promote them more effectually than the providing of useful and entertaining occupation for the leisure of the busy classes. Merely teaching the young citizens to read, though a great boon undoubtedly, is a very imperfect one unless they can have access to books worth reading. It is inviting them to a Barmecide's feast, where there is nothing to eat. Or it is like the privileges that the ladies are allowed at English public dinners—that of sitting hungrily in the gallery and seeing the lords of creation eating of the fat and drinking of the sweets below.

And the expense need not be so great as to deter the humblest community from thus completing its apparatus for the teaching of its children. A library containing all the standard English authors, with duplicates and triplicates of those most in demand, could be had for an investment of not more than two or three thousand dollars, and a very moderate annual appropriation would suffice to furnish it with all the new books worth adding to it. Of course, large towns and great cities would not be content with this modicum of mental food, but would provide for the necessities of the student as well as for those of the common reader. We are confident that no better investment could be made for the best interests of society, material as well as moral and intellectual, than such an appropriation of public money. The returns would soon begin to be perceived in the improvement of the general intelligence and morality. No better or more effectual antidote could be provided for the bane of bar-rooms, billiard saloons, and gambling-houses, than the cultivation of a literary taste and the love for books which a free access to an ample library would furnish. To the allurements of pleasure and the attractions of vice the best counter-charm is that supplied by the magic of reading. The devil, we all know, is always readiest with his temptations in our idle hours, and the most potent exorcism against him, to drown his whispers, is to be found in the tones of the enchanters who transport us away from the ignorant present to the past world or to the fair fields of the imagination. Bell, book, and candle used to be the appointed means for putting him to an ignominious flight ; and the two last will be found sufficient for the purpose, even now, if they be used aright.

---

MANY run around after felicity, like an absent-minded man hunting for his hat while it is on his head.

## ISOMETRIC DRAWING.

## LESSON II.

*Use of the Triangular Rulers.*

**WE** will next consider the method of using the triangular rulers. The method by which parallel lines are drawn by the use of a straight ruler and one triangle is shown in Fig. 2. The line AK in that figure is supposed to have been drawn first, and the lines above it were drawn in succession, by the method referred to, which is as follows, viz. : The triangular ruler is placed with its longest side applied to the line AK, and held in place firmly ; then the long ruler is made to bear carefully against the short side of the triangle. Now holding the long ruler with the left hand, the triangle may be made to slide along the paper with the right hand, keeping it against the long ruler. All lines drawn by the longest side will be parallel to AK. At the moment of drawing a line, the left hand must hold both triangle and ruler firmly in place.

Now, if you are provided with triangular rulers of the right form, we are prepared to draw the cube by the method to be employed in the subsequent lessons.

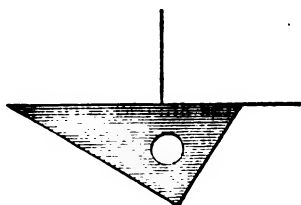
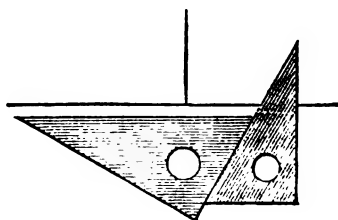
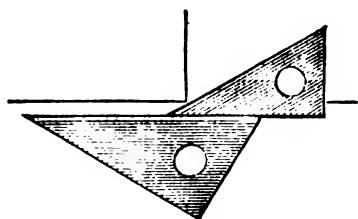
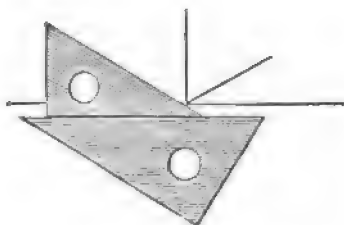
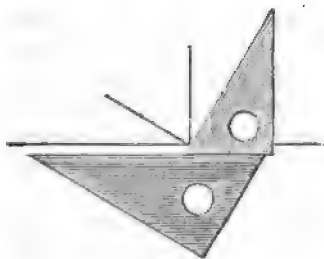
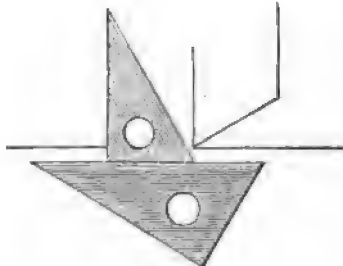
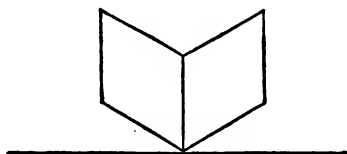
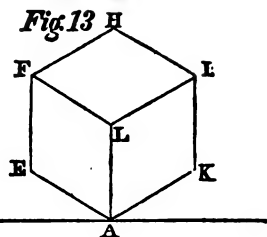
First, draw a line parallel to the bottom of the page, and at that place upon your paper where you propose to have the lowest point of your picture. Then by aid of your triangle draw a perpendicular to this line, at the proper place to represent the nearest corner of the cube : this is the line AL in Fig. 5 or Fig. 13. Draw this perpendicular the proper length ; one inch is a convenient length for a drawing upon paper.

Now place your larger triangle as in Fig. 6, with its longest side applied to the horizontal line. Hold it with the left hand and bring the smaller triangle firmly against the shortest side, as in Fig. 7.

Hold the smaller triangle steadily in place with the right hand and slide the larger triangle down, keeping it against the smaller one, till the longest side of the larger triangle is about a quarter of an inch below the horizontal line ; this position is represented in Fig. 7.

The larger ruler is to be held in this position with the fingers of your left hand, while the remaining lines are being drawn. It will probably slip frequently until you get used to holding it while you are drawing ; if it slips in the least, you must replace it by this same method, starting from the line as in Fig. 6.

We will now draw the line marked AK in the finished drawing. Place the small ruler above the larger, as in Fig. 8, sliding it along carefully till the edge just comes to the bottom of the perpendicular, or rather till there is just room for your pencil to draw by the edge of the ruler exactly to the end of the perpendicular. At the moment of using the pencil your left hand must hold both rulers in place.

*Fig. 6**Fig. 7**Fig. 8**Fig. 9**Fig. 10**Fig. 11**Fig. 12**Fig. 13*

Now turn the smaller triangle over, and draw, in like manner, the line which inclines to the left ; the position of the ruler is shown in Fig. 9 ; the line to be drawn is the line AE in Fig. 5.

The two lines AE and AK are to be of the same length as the perpendicular ; you may generally draw such lines a little too long ; then make the proper measurement, and mark the point where it falls by a dot. By following this method there will be ends of lines projecting beyond the proper limits ; these ends are to be erased after the drawing is completed. Now draw the perpendicular KI with the ruler in the position given in Fig. 10.

Draw EF by the ruler in the position given in Fig. 11.

Draw from L to I and from L to F by following the plan represented in Fig. 8 and Fig. 9, except the ruler must be slid along till the longer side coincides with the top of the perpendicular instead of the bottom of it. The drawing now should be like Fig. 12.

The two remaining lines FH and HI are to be drawn by the method just given and with the rulers in the positions of Fig. 8 and Fig. 9, only carrying the ruler far enough to the left or right to permit the longest side to pass through the starting point of your new line.

If you will repeat the exercise of drawing the cube now, you will find it profitable to draw the lines in a slightly different order.

For instance : draw first AL, and make it the right length ; then draw AK, then LI ; next draw AE and LF ; measure the distances on AE and AK ; then draw EF and KI ; and, finally, FH and IH.

To draw the cube upon the blackboard, you may, if you prefer, dispense with the use of the wood triangles and use a paper one. The rule for making a paper triangle is given in the first lesson. To use it in blackboard drawing, proceed as follows : Draw the horizontal as before ; next the vertical line AL, by holding your paper triangle with its shortest side on the horizontal line, and the right angle at the point you have selected for the point A ; the direction of the upright side gives you the position of the line AL : six inches is a good length for this line.

Now, to get the direction of the lines AK and AE, you must use the sharp angle of the triangle for a measure, holding it in the position represented in Fig. 8 and Fig. 9 ; only the lower side of the triangle will be exactly on the horizontal line ; measure both lines.

EF and KI may be drawn in the same manner as AL ; make these lines also the proper length. Now join LF and LI ; then hold your triangle with its longest side on FL, so that the  $60^{\circ}$  angle shall be at the point F, and the triangle on the upper side of the line ; then the short side of the triangle will lie in the direction FH. In a similar manner you may find IH.

## A LETTER FROM SANTA CRUX, CALIFORNIA.

CALIFORNIA is a land of extremes. Here natural objects of every kind take on their most extraordinary types. As, for an example, trees. In general, this may be said to be a treeless country. Over a vast region here, there grow only scattered and remote trees—say not more than one to an acre, or much fewer. The most common species of tree is the “live-oak,” as it is called (*quercus agrifolia*). It is found scattered here and there, or rarely collected in groves, in every part of the State which I have yet visited. Sometimes it is a low, straggling shrub, as on the hills back of San Francisco. Again, it is a majestic tree, wide-spreading and lofty, as in Oakland; and, at times, as in the forests about Santa Cruz, it is tall and straight, with only summit branches. But everywhere its bark, foliage, and fruit are unmistakable—the picturesque, the shady, the useful. But vast regions are destitute of this or any other tree; not only the plains, but the hills and the mountains around the plains. This is one extreme. And when you *do find* a forest, it is a forest indeed! Not only am I astonished at the lofty grandeur of the forest trees, but at their density. I have not yet seen the “big trees” of Calaveras County, but I have seen the forests around Santa Cruz. Where these yet remain intact, I have seen acres, each sustaining, I suppose, not less than five hundred trees, averaging nine feet in diameter and one hundred feet in height, while some specimens are twenty feet in diameter and two hundred feet high! Such are the famous “redwoods” of California. They make excellent lumber, and are *durable* to a period yet unknown, as none of the present inhabitants have witnessed their decay in any situation. These redwood forests cover but a few of the mountain ranges here, although further north such forests are said to be vast in extent. Now what is the compensation for the nakedness of the plains and hills generally? Look on them and behold! A luxuriance of verdure, a gorgeousness and beauty of bloom such as no words can describe, much less exaggerate. For instance, the Salinas Plain, forty miles by twenty, extending eastward from Monterey. At a distance it looks painted and variegated as no parlor carpet can imitate. Here a patch of richest, glowing orange-color (*eschaltzia*), there of watery blue (*nemophila*), there a dash of sulphur yellow (an *orthocarpus*), there of purple or pink (another), yonder of ultramarine blue (larkspurs), and another of checkered white and blue (lupines). But, more generally, these hues are blended, some imperceptibly diffused, others dashed in clear and definite lines and dots. But I labor in vain. No sense but *sight* can convey the conception.

Arrived in the presence of these flowers, the admiration inspired by the distant view becomes astonishment and delight. You are greeted by a variety of exquisite, upturned faces never before seen, unless in Eastern gar-

dens. The pink-like calendrinia, the pure white forget-me-nots, the fantastic castillejas and orthocarpus, the strange and curious clovers, the pretty trepocarps and thysanocarps, each gem of floral beauty produced by millions on millions. This it is that justifies Fremont's poetic figure—"California, the rosy-footed."

It becomes me to add, lest a false impression result from the above remarks, that on all these flowery plains and mountains the plant which outnumbers all the rest combined, forming the substantial verdure of nature's carpet, for the brilliant flowers have but little foliage—that plant which feeds the animal creation by thousands and millions with the richest food, is the *erodium cicutarium*, not a grass, but a geranium. This plant is sweet to the taste, exceedingly hardy, and produces immense quantities of seeds.

The general scenery of this State should here receive a passing notice. I mention the plain of San Bernardino as an example characteristic of the State. This plain is far inland, some eighty miles in length and twenty in width. It is almost treeless, but in some parts overgrown with *chaparral* (i. e., bushes), and naturally is one entire flower-garden. Very few streams of water cross this vast plain; they sink into the ground. But the surroundings! Along its northern limits runs a mountain ridge, almost continuous, its whole length, consisting of naked sand-rock, precipitous everywhere, towering above the clouds, and finally culminating in the grand mountain of San Bernardino, nearly nine thousand feet above the ocean level, and capped with snow most of the year. Along the base of this range, within a mile or two of it, yet on a smooth, open plain, we travel by stage near eighty miles. What a route for a railroad! Then, looking southward, the plain terminates in mountain scenery of great variety, some peaks arising solitary, others in pairs, threes, groups of giants, but all bald and treeless, except in the deep cañons by which they are cut and cleft in the wildest manner. As to this plain, it is fertile; and although no rain falls after April until November, it is as productive as perhaps no lands are in the Mississippi Valley, or anywhere outside California. Innumerable streams from the mountains saturate the soil, sinking into it, not running over it, so that water is everywhere found within a few feet of the surface. All products, both temperate and tropical, may grow there.

But I must say a few words about Santa Cruz. Here is a very rare combination of the grand, the beautiful, and the picturesque. Look southward; there lies the Pacific, the Bay of Monterey, and yonder, opposite, fifty miles distant, lies the city or town of Monterey; westward, the boundless ocean; northward, the hills and mountains, near and remote, are clothed, as in New England, with forests—and the lofty redwood is chief in those forests. (The appearance of that tree is mid-way between that of pine and hemlock.) From the forests flow many perennial,

babbling, clear-water streams, uniting to form the dashing, cool, and pure river, the San Lorenzo. And those forests are full of New England flowers, or, at least, of flowers very nearly related to them, such as the columbine (*aquilegia*), the Solomon's seal (*smilacina*), the wood-sorrel (*oxalis*), white and yellow violets (*V. Canadensis* and *V. puluscens*); the pretty trientalis, also, with its starry flowers. There I seemed once more at home. As to the town itself, it is built on *three* terraces or tables, the first fronting the river, the second fronting the ocean, and say one hundred feet higher, and the third fronting both, and raised another hundred feet. In the vicinity is a kerosene distillery (they distil it out of sand!) a gold mine (shaft eight hundred feet), vast quicklime works, a powder-mill, a paper-mill, flour-mills, etc., also a Jesuit Cathedral mill of the middle ages, which grinds exceedingly fine. Here are four Protestant churches—ay, and also free, public, graded schools, conducted on the plans and principles, of the nineteenth century.

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## CHEMICAL AND PHYSICAL MANIPULATION.

THE recent action of Congress, in setting apart such a large share of the public lands for the purpose of fostering the study of applied science, can scarcely fail to give such an impetus to this kind of education as must cause any teacher who remains deficient in this department to fall behind.

On the importance of practical familiarity with philosophical apparatus, and the best method of using it, we do not deem it necessary to enlarge. Faraday, the highest authority of the age, thus speaks of it: "By ready and accurate manipulation, an advantage is gained independent of that belonging to the knowledge of the principles of the science; and this is so considerable, that of two persons having otherwise equal talents and information, the one who manipulates best will very soon be in advance of the other; for the one may obtain satisfactory conclusions from his experimental inquiries, while the other is left in doubt or led astray by his imperfect or incorrect results.

"This advantage may be illustrated by the use of the tinder syringe, a small instrument consisting of a cylinder about half an inch in diameter and three or four inches in length, closed at one end and fitted with a piston, to the extremity of which a piece of amadou is fastened. By forcing the piston down, and compressing the air *suddenly*, so much heat is evolved as to fire the tinder. Some persons cannot perform this simple experiment, whatever may be the strength or alertness which they endeavor to bring into action; while others, with a very slight force and the mere approach of their hands towards each other in the air, will in every

instance obtain the effect desired, and produce the required ignition. Were this a new experiment to the persons making it—the object being to prove whether air, when highly compressed, gives out much heat or not—the first person would either come to a wrong conclusion, or, if he doubted the success of his experiment, would arrive at none at all; whilst the second would be enabled to form a correct and affirmative decision, and thus would have added an important fact to his previous knowledge.”

But it is not in experiments of research alone that the importance of dexterity is manifest. However firm may be the faith of the student in his text-book and in his teacher, experimental failures have a decided influence in lowering his faith in the first, and making the second a subject of ridicule. In vain does the teacher explain or excuse the unfortunate failure. His pupils have been taught to rely implicitly on the uniformity of nature's obedience to law, and to their minds the evidence is very clear, that either this faith is groundless, or the teacher does not understand his business.

How different when an experienced manipulator attempts to illustrate a proposition! It may have taken hours to make the arrangements, and the operations may be difficult and complex, but the whole thing is done at the right time, without apparent effort, and with no stopping or confusion; the illustration seems to present itself, instead of being presented; the pupils are pleased with a beautiful experiment, while the teacher is gratified with that most pleasurable of emotions—a consciousness of success.

*Skill* in manipulation is, however, not the only requisite of a successful demonstrator. It is also necessary that his various experiments be suitably arranged, so that the pupil may be led step by step to a clear view, not only of the facts, but of the principles involved. Thus suppose it to be required to illustrate that most important of all pneumatic instruments, the barometer. The teacher might exhibit a barometer, show his pupils the Torricelli experiment, and close with a few confirmatory and illustrative experiments with the air-pump. And such, indeed, is actually the arrangement laid down in many of our text-books. How much better would it be if, instead of this crudely digested plan, the following system were adopted! First of all, impress upon the student the following facts, giving suitable experiments to illustrate them: 1. Air has weight; 2. Like all other fluids, it presses in all directions—up as well as down; 3. Cylindrical columns of the same diameter and weight, of different fluids, are of different lengths. After the student has clearly apprehended these points, show him two barometers, filled, one with mercury and the other with colored water. Call his attention to the fact that while the mercury does not reach quite to the top of the tube, the water fills it completely. Finally, remove the pressure of the air from the surface of the mercury and water, or allow the air to press on the top of



them, and a clear idea of all the facts connected with the barometer will have been conveyed.

Even in such a simple experiment as that designed to prove the weight of the air, there is a choice of modes of operating, these modes being very different as to conclusiveness and elegance. Compare, for example, these two methods of illustrating the weight of the air :

*First.* Weigh a flask ; remove it from the balance, screw it on the air-pump ; exhaust and weigh it again. The difference is, of course, the weight of air extracted from the flask.

*Secondly.* Exhaust a flask and equipoise it, having the weight-pan slightly the heaviest. Now open the stop-cock, and, as the air is heard to rush in with a whistling noise, call attention to the increase in weight.

Any teacher who will try these two methods before a class will find how differently the two systems will strike them. In the first case, a long interval, and the several operations of screwing, unscrewing, exhausting, attaching, etc., so break up the continuity of the illustration that it loses its effect, and the pupils have little more evidence than the word of the teacher. In the second case, the whole process is so clear, continuous, and striking, that it affects the mind like all well-presented facts. It is obvious that both methods might be combined with good effect in the same illustration. On looking over half a dozen of our popular text-books, I find that the first plan is the only one suggested. Dr. Draper, in his text-book of *Natural Philosophy*, minutely directs us to follow the second plan. Such an experienced teacher and skilful manipulator would, undoubtedly, adopt the best possible method. Theoretically, there is no difference in these two methods, so far as absolute proof is concerned. The patient investigator, carefully following out his experiments with a view to demonstration, would be satisfied with either. But the effect upon a class would be very different, and it is just these slight alterations which make all the difference between success and failure.

It might, perhaps, be objected that to dwell so minutely upon each instrument would require more time than can well be devoted to any one branch of study. It is, however, worthy the consideration of the teacher whether the student who has mastered the laws and facts relating to the barometer, the galvanic battery, the magnet, the steam-boiler, etc., has not acquired clearer and more practically valuable ideas than he who has studied *generally* all the different divisions of physics.

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A YOUNGESTER, perusing a chapter in Genesis, turned to his mother and inquired if people in those days used to do sums on the ground. He had been reading the passage : " And the sons of men multiplied upon the face of the earth."

## THE FUGITIVE.—A DIALOGUE.

## CHARACTERS :

CHARLES, *King of England.*BARNEL, *a peasant.*CATHERINE, *his wife.*

SOLDIERS.

SCENE I.—*A Solitary Spot. TIME—Evening.*

*Charles (in disguise.)* In this quiet spot, I would that I might forget the turmoil of faction and strife that surrounds me, and find rest. Hunted like a wild beast, the King of England well may envy the meanest peasant. Ah, here are signs of life ; yonder is a woodman's hut, where, mayhap, I may find somewhat to appease my hunger. The craving stomach must be satisfied, though the head fall for it.

SCENE II.—*A Small Room. BARNEL sitting. CATHERINE clearing the table.*

*Barnel.* I tell thee, good wife, we must not give to all these strangers that come our way.

*Catherine.* Faith, man, an' I'll do as I please. While I am mistress here, none shall go hungry from the door.

*Barnel.* But we must be prudent. In these evil days one knows not whom he serves. Should followers of the king—

*Cath. (interrupting.)* Always afraid for thy precious pate. I tell thee, man, the king—though they do say the battle went sore against him—is still our king ; and I would serve him, and all that were with him. Hark ! some one is at the door. [BARNEL opens the door.]

*Charles.* Good-even, good man. Canst show hospitality to a poor wayfarer, and give him food ?

*Barnel (eyeing him suspiciously.)* And who art thou ?

*Cath. (pushing BARNEL aside.)* What does the man want ?

*Charles.* Food, good woman.

*Cath.* In the name of the king, then, come in. Catherine Arnold will not refuse such cheer as her poor hut affords. Would it were better !

*Barnel.* Nay, good wife, an' we give to every one that comes, we shall have nothing for ourselves.

*Cath.* Peace, man ! We have food, and to spare (*laying the table*). Hark ye, stranger, why should a strong man be begging bread when the king has work to be done ? Good faith ! were I a man, I should not long be idle.

*Charles.* And what wouldst thou do, good woman ?

*Cath.* Do ? What every Englishman should do—fight for our king and his cause, until that canting knave, that brewer's lout, Cromwell, be brought to the block.

*Charles.* Would that thou wert a thousand men!

*Cath.* Art, then, his friend?

*Charles.* I am.

*Barnel.* Thou shouldst have said that sooner. I would not then have feared to welcome thee.

*Cath.* The surly dog! He is repenting of his ill-manners, I trow.

*Charles.* Speak not harshly, good dame. I have reason to be grateful to you both.

*Cath.* Not so, good sire. But draw nigh and eat. [*CHARLES obeys, while they watch him curiously. Sound of approaching horsemen.*]

*Barnel (springing up.)* Away! 'Twere death to us were you found here by Cromwell's troopers. Haste! or we are undone.

*Charles.* God forbid that your hospitality should bring you harm! I will go.

*Cath. (angrily to her husband.)* Cease, fool! or your cowardice will betray us. [*Hurries CHARLES to a corner and conceals him with bags of meal. A loud noise at the door. BARNEL sinks upon a settle, CATH-ERINE opens the door. Armed men without.*]

*Leader (entering.)* Good woman, has a stranger passed this way to-night?

*Cath.* No, my lord. I have seen none pass.

*Leader.* Surely he must have come this way. (*To his men.*) Enter. We will search.

*Cath. (indignantly.)* For what?

*Leader.* For that son of Belial, Charles, whom Cromwell—

*Cath. (aghast.)* Our king! In this poor hut!

*Leader.* Ha! Call'st him king? Jade, thou liest! Thou hast seen him. (*Seizing BARNEL.*) Who is this?

*Cath.* 'Tis my husband, good sire; he is ill.

*Leader (shaking BARNEL.)* Hark ye, man. Bestir thyself. Knowest thou aught of Charles?

*Barnel (trembling with fear.)* I? N-o. No. I—

*Cath.* My lord, do not disturb him; he scarce knows what he says.

*Leader.* Man, tell me, has there been a stranger this way to-night?

*Barnel.* No-o, my—lord. I—I—oh, but I'm very sick, my lord.

*Cath. (angrily.)* Wouldst worry a sick man? I tell thee he knows nothing when the fever is upon him.

*Leader (approaching the bags.)* What have we here? Corn? Lay hold, men; our horses have need of this.

*Cath. (beseechingly.)* Surely, my lord, an' our need is greater. Do not take from us our only store.

*Barnel (tottering forward.)* Nay, nay, good sire, you must not take that.

*Leader (seating himself upon the pile.)* Verily, thou death's prize, thou hast great concern for what thou wilt never live to eat. Stand back, or

we may hasten thy burial. [BARNEL cowers back trembling and groaning.] What ails the man?

Cath. 'Tis the fever, my lord—the fever. I pray you disturb him no further. You but waste time here.

Leader. True. He is not here. We have missed the trail in this vile wood, and must find it ere the night falls. Mount! [They ride away.]

Cath. (angrily to her husband.) Fool! thy craven tongue had well-nigh undone us, and betrayed our king. Thy trembling knees and ashen face were better than thy brains. [Removes the bags.] Your majesty—

Charles (arising.) Hope has sprung up within me. I may yet escape. My good dame, I thank thee for my deliverance. When the king is on his throne again, thou shalt not be forgotten.

### HENRY HUDSON.\*

ALTHOUGH the fame of Henry Hudson is co-extensive with the civilized world, there are few men of whose personal history so little has been positively ascertained. Nothing is certainly known of him prior to April 19th, 1607, when he suddenly appears as a captain in the employ of the "Company of Merchant Adventurers." His birth and parentage are uncertain, and even his personal appearance is unknown, for no portrait is extant. Mr. Read's "Historical Inquiry" is an ingenious attempt to determine the antecedents and family connections of this remarkable man.

Lower, in his *Patronymica Britannica*, gives the following account of the origin of the name: "Hodgson, the son of Hodge or Roger. This name, in the north of England, is pronounced, Hodgin, while in the south it has taken not only the pronunciation, but the spelling of Hodson or Hudson. The name of Hodgson is ancient at Newcastle-upon-Tyne, being found in the records of temp. Edward I., and the Hodgsons of Stella and Acton, co. Northumberland, trace a clear pedigree to 1424." "Roger. . . . From it are formed Rogers, Rodgers, Rogerson, etc., and from its nickname Hodge, Hodges, Hodgson, Hodgkin—Hodd, Hodson, Hudson. The Norman patronymical form is Fitz-Roger, and the Welsh Ap-Roger, now Prodger." These names appear to have been interchangeable, and Mr. Read found much difficulty in tracing persons, it being by no means infrequent for a man to vary the spelling of his own name several times in a single letter. The name Hudson was spelled in twenty-one ways in manuscripts consulted by Mr. Read.

Our author first identified the name in the patent given by Queen Mary to the "Company of Merchant Adventurers," an association founded in

\* A Historical Inquiry concerning Henry Hudson, his Friends, Relatives, and Early Life, his Connection with the Muscovy Company, and the Discovery of the Delaware Bay. By John Meredith Read, Jr. Albany: Joel Munsell. 8vo, pp. 209. \$5.00.

1555 by Sebastian Cabot, for the purpose of discovering a northeasterly passage to China and the East Indies. This company still exists, though no longer composed of explorers but of merchants, and is now known as the Muscovy or Russia Company. In the original patent of this company *Henry Herdson* is named one of the twenty-four assistant-governors. The same person is mentioned in proceedings of the Court of Chancery, but the name is there spelled *Hudson*. This man possessed great wealth and belonged to the skimmers or tanners of London, one of the twelve privileged corporations from which alone the Lord Mayor can be chosen. He served as alderman, was the intimate friend of Lord Clinton and Say, and died of pestilential fever in 1555, at London, where he was buried with great pomp. He left three daughters and eight sons.

The Hudsons seem to have held a leading position in the Muscovy Company. Thomas, son of the alderman, belonged to a circle of which Sir Francis Washington and Sir Walter Raleigh were prominent members. Capt. Thomas Hudson, evidently a relative of the one just mentioned, was commander of an expedition to Persia, fitted out by the company. Mr. Read found two Hudsons named Christopher, who appear from Chancery proceedings to have been father and son. The younger became a governor of the company, and took part in many of its heaviest ventures. Unfortunately, all positive information respecting him ceases in 1601, just six years before Henry Hudson, the navigator, made his first voyage to the American coast in the employ of the Muscovy Company.

Having traced the connection of the family with the "Company of Merchant Adventurers," Mr. Read concludes that in all probability the discoverer was grandson to Alderman Henry Herdson; and that he was trained in the service of the Muscovy Company. Certainly his life seems to accord with the latter conclusion, for his darling object was to discover a northeast or northwest passage to China and the Indies, which was the very aim of the company's organization. It is settled that he was a citizen of London, and had a house there. His family was influential. He had several children, but only one son, John, who belonged to his crew and shared his tragic fate.

Mr. Read gives a graphic sketch of Hudson's voyages, containing many facts which, we apprehend, will be new to some of his readers. On May 1st, 1607, Hudson started from Gravesend upon his first recorded voyage. His intention was to cross the North Pole north of Greenland; but he was compelled to relinquish this design, as the land extended further to the east than he had supposed, and a wall of ice extended from it to Spitzbergen. He then attempted to sail through Davis' Straits; and on his homeward voyage tried a lower latitude, but without success. On April 22d, 1608, he sailed on his second recorded voyage, having for its object the discovery of a northeast passage to the East Indies. The 15th day of June was notable in this voyage, for on it two of the sailors had the rare

privilege of seeing a mermaid, which was accurately described in the log-book, as cited by Mr. Read. After remaining some time at Nova Zembla, Hudson, seeing no prospect of an opening in the ice, became disheartened, and returned to England, arriving August 26th, 1608.

Although, as we have seen, the great navigator had failed to discover the northeast passage, yet his incidental discoveries were of such importance as to gain for him a widespread reputation. The Dutch East India Company, which had established itself as a rival to the Muscovy Company, fearing that under so enterprising an explorer the northern passage might be discovered, and their advantages thereby destroyed, determined to enlist Hudson in their service. Their negotiations were successful, and Hudson's third great voyage was made under their auspices. Why or when he left the Muscovy Company is not precisely known. With his heart still intent upon the discovery of a "passage by the north, around the north side of Nova Zembla," he set sail from Amsterdam on the 4th of April, 1609. At Nova Zembla he found the ice so thick as to render progress impossible. His crew mutinied, and demanded that he should obey his instructions, which required him to return immediately in case of failure. However, to accomplish something worthy of his reputation would not suffer him to take such a course, and, contrary to his instructions, he determined to seek another route. On May 14th, having gained the consent of his officers and men, he turned westward, and on 18th July anchored in (probably) Penobscot Bay. Here his lawless crew attacked a party of Indians, who were approaching the boat on a friendly errand. This so alarmed Hudson that he stood out at sea until the middle of August, when he found himself off the James River. Again steering northward, he discovered Delaware Bay on the 28th. A few days' observation convinced him that the passage to China did not lie that way. He then sailed up the coast of New Jersey until the 3d day of September, when he entered Hudson River. The voyagers reached England in November. The Dutch sailors were permitted to go home, but Hudson was detained, and informed that thereafter he should serve his own country.

In April, 1610, as full of hope as ever, he departed on his last voyage in search of the northwest passage. Again cursed with a wicked and mutinous crew, he suffered extreme hardships from their criminal misconduct. At length, on Midsummer's day, 1611, though he had just divided his last bread with the men, the ungrateful crew, thrusting him into a frail boat, with his son and several sick sailors, cut him adrift to perish in the arctic seas, amid the "great waste of waters which, bearing his name, is his tomb and monument."

Mr. Read is still engaged in his researches, and hopes soon to present information which will clearly establish his theories. As yet his arguments are mainly based upon hypothesis; nevertheless, they are so cleverly grouped that one can hardly doubt their correctness.

# AMERICAN EDUCATIONAL MONTHLY.

SEPTEMBER, 1866.

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## KEYS TO SUCCESS IN MODERN SCHOLASTIC ENTERPRISES.

**I**T is presumed, that, in the commencement of an undertaking, it is the intent of the party interested so to arrange its bearings that they may terminate in the accomplishment of a preconceived design. In business transactions, which comprise the larger portion of such enterprises, the goal to be attained is the acquirement of wealth, or money, its representative. To the masses of humanity, and therein schoolmasters and school-mistresses are included,

"This is the butt—the end—  
The very sea-mark of their utmost sail."

If this be so, some experience enables us to expose to public view how this termination, pecuniary success, has latterly often been (and may yet be) obtained by one who seeks it in city communities as a principal of a modern fashionable school.

To begin. He who desires to succeed in such a position will find, primarily, the best way to prosper is to subordinate every thing to the public will. Both children and parents (this is the right order of procedure) are to be consulted on all occasions. If his experience runs counter to their desires, let him abandon it. Above all things, let him remember he is not a clergyman, whose duty it is to instruct mankind, but a school-teacher, whose interest is to make money. Let him, therefore, avoid strict and old-fashioned discipline. In the present age, to establish a really orderly school is a doubtful experiment, whilst to yield gracefully to the public will is a certain success. The mere matter of education is a secondary concern. The real effort of the instructor has the same goal as that of the lawyer or the merchant; and he will not here fail in his mission who secures his own and his family's interest by the acquisition of wealth.

Passing over the selection of the site and the various methods by which notable references are, alas! at present too easily procured, we arrive at the first grand *desideratum* required, which is, "novelty." Either some innovation in his system, or some prominent specialty in his educational

course, is a *sine qua non*. It matters not how singular it may be ; indeed, the more grotesque, the better for his purpose. Let it be the broadsword exercise, or the study of Hindostanee ; some novelty the fashionable public require and will have. The selected specialty should be brought to the notice of the patrons of the establishment on all occasions. It must be explained to them, that (in case the former be selected) their children cannot even walk properly without a fundamental knowledge of the broadsword exercise ; or, if the language be the object chosen, that the first principles of English Grammar are sealed books to youths who have not previously conquered the orientalism of Hindostanee.

In the remark on discipline it is not intended to be asserted that a school can be conducted without some order. A kind of rollicking guerilla authority must be maintained. In such case proper opportunities must be seized, and the laws enforced on proper objects. Discrimination in public or private schools largely obtains at present. In the cases of the children of notabilities, it is well to remember the description of leviathan, in the Book of Job,

"Lay thine hand upon him, remember the battle, do no more."

It is true, this favoritism may cause some heartburnings in little breasts, but there is no good without its modicum of evil. Remember, it is necessary. Remember also, that schools such as are now treated of are better governed by tact than by laws.

As, without perfect order and discipline, there can be little hope of steady progress, the deficiency must be supplied by its similitude. Real knowledge must be improvised by superficial. *Par exemple*: in Arithmetic begin with extraction of the cube root and work down to addition. Of course, the professors who, at stated periods, visit the school must conform to its regulations. Sketches must be shown executed by pupils who know not how to draw. Supersede Bertini by Mozart as soon as possible. As a general rule, rising men are more pleasant and reliable than established professors. Any thing is preferable to submission (in matters of instruction or discipline) to the caprices of old fogies, who insist on children walking up the hill of science, in preference to the modern method of flying and lighting on its summit.

Another key to success is show or exhibition. If a girls' school, in emulation of some of the larger scholastic centers, set apart one day in the week for the reception of the public. This methodical arrangement, it is



presumed, is copied from the Chinese, who, previous to the time of the great commissioner Lin, appointed one day in the year in which to search for opium. Due notification having been given to foreign barbarians, they, as a matter of course, never found any. In like manner, parents will find those establishments in which the "reception" custom is practiced—never unprepared.

In addition to this, it would be well to spare the children the dry drudgery of another morning's toil in the winter, by sacrificing a day now and then to scientific or musical entertainments. Patronize lectures on all subjects; they are an easy method of imparting instruction, which saves much toil both to teachers and pupils. In summer-time, occasionally organize the school into an exploring party, and go in search of geological or botanical curiosities. As these, however, are common, an additional charm might be found in a piscatorial expedition, which, on the sea-line, might also be termed (for despite of Shakespeare there is much in a name) a "conchological survey." Credit is taken for this suggestion, it being surmised that this mine has never been worked. Careful attention to the foregoing hints will be found, in cities, very certain to command success.

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#### PERVERTED EDUCATION.

IT is rashly assumed by many patriotic people that our public schools are the bulwarks of our liberties, the hope and pride of the nation. Even those who, in their zeal for the good cause, find much in our schools to condemn, are careful to avow the belief that the good in them vastly surpasses the evil, and that their aggregate effect conduces greatly to the glory and prosperity of the country and the permanence of its institutions.

But this, it seems, is a mistake, a grievous error, for the discovery of which the world is indebted to *The Weekly Dull Blower* of this city. In a recent number of that loyal and intelligent paper appears a "leader" which annihilates our confidence in the schoolmaster, exposes the weakness and wickedness of our schools, and deplors the "perverted education" which results therefrom. A terrible example is made of Massachusetts. This State, the D. B. avers with characteristic regard for truth and good grammar, "is full of schools, but no State or people in the land are so ignorant or so incapable of self-government. From the beginning they have opposed every acquisition of territory, every step of

national progress, and, as a State, never yet furnished a single soldier or a single dollar for the national defence." What a blow to the historic pride of Massachusetts, and how humiliating must this sweeping charge of ignorance be to the galaxy that revolves about the Hub!

It appears, likewise, that our "Abolition press and preachers, . . . poor, deluded, besotted creatures," are as bad as the schoolmasters;—"they have the amazing impudence to talk of the superior intelligence of the North!" Surely, they can never have seen the D. B., or they would be less extravagant in their estimate of Northern intelligence.

But the closing outburst of the righteous indignation of the D. B. surpasses every thing. "Indeed," it exclaims, "few of the teachers, preachers, professors, etc., [especially the *etc.*] that have charge of the institutions of learning have the remotest idea of true liberty; and if they could all be driven from the land and their school-houses burned, it would be a stupendous gain to Republican liberty."

Every good citizen will perceive the truth and justice of all this, and will rejoice to aid the execution of so patriotic a proposition. We would respectfully suggest, however, that the driving and burning be postponed to a cooler season. It is too much even for comfortable contemplation this hot weather.

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#### JOURNALISTIC HONESTY.

A SHORT time since, having occasion to speak of the honesty of educational journals, we expressed the belief that, without exception, the conductors of such journals in the United States were honorable men. We would be sorry to have to abandon that belief or to retract our expression of it. Nevertheless, we must acknowledge that our faith in its generality has been seriously shaken; and that, too, by our nearest neighbor—*The Connecticut Common School Journal*. In the July number of this fair-looking monthly we find, copied in full from our May number, an interesting article entitled "A Few of My Troubles;" but we have looked in vain for any acknowledgment of the source from which it was obtained. The same article has been extensively reproduced throughout the country, but we are aware of no other instance in which it has not been duly accredited to the MONTHLY. Now, we have not the slightest objection to such use of our articles; we have repeatedly said that our editorial brethren are welcome to any thing in the MONTHLY, *provided due credit is given*.

In the present case, if the offending journal did not itself prove the contrary, we would have charitably supposed the theft to be not so much intentional as the result of an ignorance of professional courtesy. But, since the entire number, with a trifling exception, was made up of pickings from other educational papers—all properly acknowledged—and stealings from the MONTHLY, we can see in such conduct nothing but intentional discourtesy and dishonesty. This is the first instance of the kind that we have met this side of Canada. For the good name and fame of American educators, we hope it will be the last.

We are happy to learn that Mr. Camp, the resident editor of the *Journal*, being in England at the time, was not directly responsible for this occurrence. No doubt, he supposed he was leaving an honest man in charge.

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## EDITORIAL CORRESPONDENCE.

### "A FEW OF MY TROUBLES."

I WAS much interested in the account which a contributor in your last number gives so graphically and playfully of her troubles in school-keeping, and shall be glad if I can lend her some little aid in ridding herself of them.

The grand source of her troubles evidently lies in the fact that she teaches after a stereotyped plan, which has been handed down from time immemorial, and is so fixed by long-continued custom, that few teachers have the boldness to break loose from it, in the face of the expectations of parents and the requirements of school-committees. It is the plan that makes education consist mostly in mere drilling—in the teaching of letters, and words, and forms of expression, and processes, while the interesting realities, the *things*, to which these relate are left to be learned by chance. Such a mode of teaching must necessarily be, as your contributor says it is, "dull, commonplace, absurd, wearisome." Its influence, therefore, both on pupil and teacher must be in some respects bad. Of its influence on the teacher, Dr. Holland says truthfully, "I suppose it must be admitted that there is something in the business of teaching [he should have said, *as commonly pursued*] which tends to make the character dry;" and he attributes this to an "everlasting handling of materials that have lost their interest," which, he says very truly, "is a very depressing process." In elucidating the subject, he remarks that "there is a class of teachers who seem to be really interested in the drudgery of repetition, and these are all dry characters, and they grow dryer and dryer till they die."

Now, your contributor is not one of these dry characters. If she were, she would not be restive and discontented in pursuing the common routine which custom has prescribed. She longs for something better—some-

thing less dry—and longs so hard that she utters forth her troubles frankly and freely.

The great cause of the dryness of teaching is a lack of interest, and this comes, as already hinted, from the shutting out of *things*, and making education a mere concern of *words*. The memorizing of words and forms of expression is made the chief thing, and thinking is left to take care of itself, and so is mostly left undone, and what little is done is very indefinite and loose. Hence your contributor says very truly, "My pupils only get a smattering of their various studies. Very few of them ever thoroughly investigate any subject. It is a mournful fact that the rising generation are not troubled with hungerings and thirstings after knowledge." And her experience, thus frankly stated, is just the truth about teaching in general.

But make mere memorizing, as it should be, subsidiary to thinking, instead of letting it completely smother thinking, as is commonly done in the school-room—prompt to thinking and guide it; and a new face will be put upon things at once—a new life will be waked up in the pupils, the life which thought always gives. Real knowledge, the knowledge of things, is now communicated, and your contributor, with such teaching inaugurated, will no longer have any "misgivings" as to the truth of the maxim that "knowledge is power." It is the knowledge of mere words and technicalities that she finds to be so powerless, and not that which is gained by thinking. Of the power of this latter knowledge the pupil, even though very young, will be conscious quite as readily as the teacher, and this consciousness will awaken "hungerings and thirstings after knowledge."

Thus waking up the minds of her pupils to vigorous action, your contributor may realize in full what "the eloquent and popular Mr. B." says of her vocation. She may build temples "that shall stand when palaces have crumbled and the adamantine hills have melted away," and kindle lights "that shall shine on when the world is lost in ruin, and the stars and suns have ceased to be." Surely, "it is a glorious work" thus "to train immortal minds;" for it is the training of the thought which may go on forever, and not the mere crowding the memory with words, which will easily fade from it unless by mere chance some thinking happens to be connected with them.

Your contributor seems to think that such schools as hers will stand a poor chance of sending forth to the world, as is indicated by Edward Everett, in some speech, any Newtons, or Herschels, or Franklins. It is certainly true, we must allow, that the stereotype plan of teaching is not calculated to develop the germs of such minds, but rather represses their growth. It does not furnish the food which such minds crave, and, therefore, they are very apt in the school-room to be accounted dull, in comparison with the facile memorizers who pertly and glibly recite words and technicalities to the satisfaction of teachers and the admiration of visitors, the absence of the questioning of thought really favoring the even onflow of the recitation. But the teaching of things, in place of mere words, is calculated to develop such minds; and if this mode of teaching were generally adopted, vastly greater numbers of the scholars that go out from our schools would be found in the walks of science, following in the footsteps of Newton, and Herschel, and Franklin.

The extent to which the teaching of things is left out in ordinary edu-

cation cannot be realized by any one till he has applied tests which will show it. I have applied such tests. I will give but a single example. A class of very bright boys in a public school were reciting square measure. Suspecting that, after all, they did not know what they were reciting about, I asked them if they could any of them tell me what the difference is between a foot and a square foot. They all stared at me with an expression which seemed to say that I had asked a question which I had no business to ask. At the same time, it was the blank expression of ignorance. To test the matter still further, I asked if any of them would go to the blackboard and make first a foot, and then a square foot. Several hands were held up, and the teacher told one of the boys to go to the blackboard. As he began by making a curved line, I asked him what he was making. "A heel, sir," said he. This did not provoke a laugh in the class, as it would have done if they appreciated the blunder. The fault in the teaching here was, that the teacher took it for granted that her pupils knew what the things—the square inches and feet—were, about which they were to recite.

But, perhaps, it will be said that the young pupils which one has at the very outset of education cannot be interested about things, and that the teaching must necessarily be much about letters and words. Just the reverse. Things are what they are naturally most interested in, and the teaching about things supplies the food which their minds crave. The drilling in letters and words is necessary, it is true, but it should be made supplementary and subsidiary to the teaching of things. Your contributor complains that it is difficult to make George (a very bright boy, I dare say) remember even the letter A. Why? Because there is really no interest about the mere figure of that letter. But let her show him the picture of a cat with the name underneath, asking him about his cat at home, and talking with him about the habits of cats. In this way she can interest him in the letters that make up the name cat. Or, without any such direct connection between things and letters, we can interest the child in the learning of his letters by first interesting him in things. And when he comes to get a little stock of words on hand, there is a *world* of things about which he can be taught; and this sort of teaching should not only be the main staple of his education, but it should be considered the chief means of giving him a knowledge of language. The teaching of language by grammars and reading-books, so common even now with all our improvements, is not only a dry way, but an ineffectual one. There is altogether too much of mere drilling in it. Reading and spelling should both be connected, as far as they can be, with the actual learning of facts.

I would say, then, to your contributor, who, I know by her interesting article, is really destined to be "a tip-top teacher"—take your pupils out into the broad field of nature in your teachings, and then you will not need to go out of the school-room to get "a whole skyfull of fresh air." You will thus bring the whole beautiful world around you into that school-room, instead of shutting it out, as is done now according to the prescribed modes of education. Break away from the bonds of custom. Banish the fear of school committees, and ten to one you will in a short time convince them that you are right.

One word more. Your contributor complains that she has trouble in governing her school. On this point I simply remark, that pupils who

are interested in their studies are more easily governed than those who are not ; and that, therefore, where drilling, with all its tedium and dryness, is made the sum and substance of education, a much more active and watchful discipline is needed than where a knowledge of things is made the staple of teaching, and mere drilling is considered as subsidiary to this.

A TEACHER.

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## GEOGRAPHICAL PUBLICATIONS OF GERMANY.

NOTES, July, 1866.

IN a former letter I alluded, with some detail, to the excellent atlases published in Gotha by the house of Justus Perthes, and known, more or less, to geographical scholars in every part of the world. In accordance with a hint from our honored American educator, Hon. Henry Barnard, to speak in some one of my letters to the *EDUCATIONAL MONTHLY* about the best geographical publications of Germany, with especial view to the wants of school libraries of reference, I venture to call the attention of the readers of this journal to some of the other best works issued in this country, and more especially to those which are published in Berlin.

The two heaviest houses engaged in the preparation of original atlases, are, as I said in my last letter, Justus Perthes of Gotha, and Diedrich Reimer of Berlin. During the past winter I have had the pleasure of making the acquaintance of the latter gentleman, and have found him as far removed as possible from the traditional idea of book-publishers, as an ignorant, sordid, pushing, and unscrupulous class of men. Mr. Reimer is a man of scholarly habits and tastes, a man of wide geographical reading, and connected with the very best society which the intellectual capital of Central Europe furnishes. His honor and probity are even more strongly to be commended than his intelligence and culture. His scale of operations is not so extensive as that of the Gotha house, but the works which he publishes are quite as valuable. To a certain extent these two houses are rivals, but their rivalry is entirely free from a taint of that sordid meanness which sometimes creeps into trade. Justus Perthes enjoys the advantages of having his works revised and authenticated by the eminent geographer Petermann ; Reimer, on the other hand, has the assistance of the no less eminent Kiepert. These two men are probably not surpassed by any two geographers of the age, although the blending of scientific attainments is different in them, and unlike, too, that found in our own countryman, Prof. Guyot. Petermann is the greatest living chartographer, and chartography is the one province where he is truly strong. He is a man who studies the geography of the present time, the geography of past ages, and the reciprocal connection of history and geography are subjects to which he has paid little attention. Nor is he specially versed in the sister sciences, though by no means ignorant of them. I mean by this that has not that special training in geology, botany, and mineralogy which characterizes Prof. Guyot. He is a man who has steadily, from youth up, under the training of the eminent Ritter and Berghaus at the outset, pursued the difficult task of constructing original maps from the materials

collected by travellers and government surveyors. No man knows the face of the world, as it is now, more perfectly than he. All the physical features of all the continents are as familiar to his eye as the ornaments of his library, and whenever he glances at a map where the imagination of the artist has allowed itself scope in inserting mountains and in tracing rivers, Petermann's eye can detect the transgression at a glance. He is in just his sphere as the editor of the *Mittheilungen*, a monthly journal of geographical discovery, and all the latest items are forwarded at once to him, and when properly authenticated appear in the atlases of Justus Perthes. Whenever coal-fields are found in Spitzbergen, new lakes in Central Africa, new routes opened in Australia, new cities investigated in the heart of Asia, the monthly maps of the *Mittheilungen* at once record it and carry the newly gained knowledge to the geographical public of the world. The only German rival of this journal is the *Zeitschrift der Erdkunde*, published by Reimer and edited by Prof. Koner; but the latter being occupied by the care of the great University Library of Berlin, he is unable to devote his attention to geographical studies with the incessant application which characterizes Petermann.

Kiepert, who controls the chief publications of Mr. Reimer, is well known in America and England. Even if he had no other claim to our regard than the maps to *Robinson's Biblical Researches*, he would be worthy of all his fame, for those maps have almost never been surpassed. As a chartographer he has perhaps not quite the skill of Petermann, and although thoroughly familiar with the present condition of geographical knowledge in every part of the world, he is still more conversant with the geography of the past. There are some departments in which, as a geographer, he has no rivals; one of these is his familiarity with modern languages. I know of no geographer, excepting Berghaus and Kiepert, who is acquainted with Russian, one of the tongues of the greatest value to the geographer. Kiepert is even versed in the Arabic, the language of a hundred millions of people; and this acquisition is of the first importance. He being, beyond comparison, the first living authority respecting the whole field covered by ancient geography, a tract now largely in possession of Arabic-speaking tribes, he is enabled to do what such great scholars as Ritter have failed to do, namely, to introduce a uniform system of orthography into Arabic names. And Kiepert is, what Petermann makes no pretensions to being, a thorough historical scholar, and so his works take a wider range than those of the Gotha geographer. Both of them are agreeable, kindly, whole-hearted men, although I am told that no man can be more brusque than Kiepert on deserved occasion.

The principal works which bear the name of Kiepert are the Hand Atlas, the Smaller Atlas for Schools, the Ancient Atlas, the Wall Map of Palestine, and various special maps of countries; two of which, those of Turkey and of Russia, have been recently published. The Hand Atlas is a magnificent specimen of faithfulness. In execution it is far inferior to the great Royal Atlas of Keith Johnston; but in accuracy it has probably no superior. The maps are larger than those of the Gotha Stieler Atlas; yet, on the whole, the form of Stieler is the most practical, and the size is such that few readers have occasion to look up places which are not given on its pages. Yet, if one is looking for the most complete atlas published in Germany, he must secure Kiepert's Hand Atlas. The pre-

cise price I do not remember, but I think that the work can be imported for less than fifteen dollars. The size of each page is about two and a half feet by two.

Kiepert has a reduced form of this noble atlas, and an abbreviated edition of this, including the most important maps, and adapted to the use of schools. The latter can be imported for less than two dollars, and is an exceedingly valuable work, and one which may be cordially commended to our American teachers.

One of the important articles published by Mr. Reimer, and prepared by Kiepert, is his series of globes, which are not more remarkable for their cheapness than for their beauty. The ten-inch size is expressly to be commended. They are sold at three different prices, depending on the mounting, but the most practical form is the one with the half-brass meridian, costing here a sum equivalent to seven and a half dollars American money. The atlases named are far superior to any that I have ever seen in American schools, and it would be a great satisfaction to both the maker and the publisher to see them introduced on our side of the Atlantic. A few years ago when Hon. Henry Barnard was in Berlin last, he saw this series of atlases in their German lettering. He was so pleased with them, that he asked the publisher to cause an edition to be made with English instead of German names of places. This was accordingly done, and an English edition was prepared. The American war came on, and the edition is not known as it should be; but it is not too late now for it to be taken up by some house, and introduced to the favorable knowledge of our public. They can unquestionably be imported and delivered to our schools for eleven or twelve dollars of our present currency.

I must not omit to say that Mr. Reimer also publishes globes of a larger size, nearly or quite three feet in diameter, which, when handsomely mounted, make one of the most elegant of ornaments for parlor or school-room. They vary in price, from fifty to seventy-five dollars (gold), and are all executed under the auspices of Prof. Kiepert. These are published in German, it is true, but this need be but a slight hindrance in the way of purchasing them, since not one name in ten is at all different in the German spelling from what it is in the English. I remember seeing one of these large globes in the dining-room of Prof. Barth, and of being struck with its excellence and with its great beauty, even when regarded only as an ornament. Our larger schools and colleges, which seek a globe not merely as an instrument for use but a decoration of the teacher's platform, could hardly do better than to import one of Kiepert's large globes. Of the smaller ones I need not speak, since the ten-inch size is small enough and cheap enough to meet the wants of most schools advanced enough to need a globe at all. Still, I ought not to omit saying that Mr. Reimer publishes an article not much known in America, but, according to my own experience, of great utility, viz., relief globes. These are about thirteen inches in diameter, and cost here about ten dollars (gold). They are the best help that I know in enabling the pupil to grasp the general character of the elevations of the earth's surface. Nothing can quite take the place of these relief globes; engraving can very nearly do so, but not quite.

Among the other publications of Mr. Reimer are the immense and expensive atlases which accompany Ritter's *Erdkunde*, the globes of Adami, the mathematical charts of Wenzel, the meteorological works of



Dove, and a variety of special maps from the hands of Kiepert and other eminent cartographers. I have already alluded to the *Monthly Journal of Geographical Discovery*, which, although not so ably edited as Petermann's *Mittheilungen* nor so finely printed, is a sterling work. It is to be regretted that the German language is so little known among our teachers as to make it of little use if introduced into our schools.

Among the other valuable geographical publications of Berlin are the excellent relief maps and globes, published by E. Schotte, and the new photo-lithographic maps of Raaz, published by Korn. Mr. Schotte's reliefs are not originals, but they are well made and are faithful transcripts of the maps of Justus Perthes and Reimer. The best of all is one of Palestine, about three feet by two, which costs about four dollars (gold), and would be a valuable auxiliary to Sunday-schools as well as day-schools. Yet these are heavy and rather troublesome articles to export, and a good substitute is to be had in the excellent photo-lithographic maps of C. Raaz. These are first photographed from relief maps and then lithographed, the result being the best imitation of nature that I have ever seen. Messrs. Korn & Co. are now preparing an atlas, the first proofs of which I have seen, and of which I have the happiest hopes. The maps are large, and they present a country like Switzerland even before the eye with such wonderful distinctness, that every great mountain-form stands forth almost with the vividness of relief. I would rather have some of these maps of Raaz, than some of the poor Bamerkeller reliefs which used to come over to us from Switzerland. The art of making them is a new one, and was discovered by an American living in Australia. I do not know but that the photographic atlases are already known in our country; but if not, their elegance and attractions will yet make them known.

The atlases and kindred works mentioned in this letter and the preceding are the most important published in Germany, and form an indispensable auxiliary to the student, not only in the Old World but in the New as well. This, of course, is the only reason why I have dwelt on them so fully. The thorough geographers of the country where I write, while fully recognizing the great artistic merit displayed in the maps of England, France, and the United States, do not indorse, with equal emphasis, their authenticity. We shall unquestionably have in Prof. Guyot's series what will stand as high as any thing produced in Gotha or Berlin; and, in course of time, I have no question that the best atlases in the world will be published in America, the public which calls for them being so much larger than in any country of Europe. But at present we have to look to Germany for our best work.

In closing this letter let me briefly mention the works already alluded to, published by both the houses of Perthes and Reimer, which should enter into a first-class school-library of reference. I exclude Snyder's wall-maps, because for us they are practically rendered of little or no service by the publication of Guyot's maps of the same character.

1. Spruner's *Historical Atlas*. Two sizes, the largest much the best. Westermann of New York furnishes, however, a list of all of the maps, and they can be ordered, according to the teacher's discretion, at twenty-five cents each, and then bound. This is the best way of ordering Spruner, unless one wishes to give twenty-five dollars and have the whole work.

2. Berghaus' Physical Atlas. Expensive; but Petermann's, a small work costing about four dollars, serves as a tolerably good substitute.

3. Kiepert's or Stieler's Large Atlas. Westermann furnishes the list of the maps in both of these; and they, too, can be ordered at the teacher's discretion,—those of Stieler's costing only twelve cents each, and Kiepert's but twice that sum.

4. Kiepert's Globes. The sizes are specified above.

5. Reimer's or Schotte's Relief Globes and Maps. The lists can be ordered through Westermann.

6. Berghaus' Map of Commercial Lines of Communication. An admirable and useful work.

7. Menke's or Kiepert's Ancient Atlas.

8. Kiepert's Wall-Map of Palestine. Van der Veldt's is the best (published at Gotha), but not the distinctest when hung.

These are the best, and at the same time the most practical, it requiring no German to use them with advantage.

W. L. G.

## SCIENCE AND ARTS.

**D**R. C. M. Wetherill has been engaged upon a series of very important experiments with the ammonium amalgam, to ascertain positively the existence or non-existence of the hypothetical metal, ammonium. From these he has drawn the following conclusions: The so-called ammonium amalgam is not an alloy of mercury and ammonium; the swelling of the mass in the phenomenon is due to the retention of gas bubbles; and the coherence of the gases and liquids concerned is changed from a normal condition, exhibiting phenomena which may be classed with those of catalysis. The experiments, detailed in Silliman's Journal, No. 119, are apparently conclusive.

—Fresh sources of the new metal, indium, have been found by Dr. Kachler, of Vienna. He discovered it in considerable quantity in the zinc-blende of Schönfelde, near Schlaggenwald. The blende is roasted and then dissolved in sulphuric acid; on treating this solution with metallic zinc, the indium is precipitated with traces of other metals, from which it is afterwards separated.

—M. Soret has determined that the density of ozone is one and one-half times greater than that of oxygen; and Regnault has arrived at a like conclusion. Dr. Boeckel, of Strasburg, has shown from observations made during eleven years, that ozone is most abundant in spring, that May is the richest month, that October and November are the poorest; there is less ozone at night than during the day; and the barometric variations, morning and evening, coincide with the quantitative variations in ozone.

—M. Betekoff asserts that the elements unite in inverse proportion to their specific gravity. Mercury, being heavier than iron, has less chemical energy. The investigator supposes that the laws of chemical affinity are identical with those of mechanics.

—Prof. Wohler, of Gottingen, has discovered a new mineral in some platinum ore of Borneo. It forms black, semi-metallic, very brilliant grains,

similar to crystallized iron. The specific gravity varies from six to nine. It consists of a compound of sulphide of osmium and sulphide of ruthenium. This is the first time that the platinum metals have been found in combination with sulphur, and will at once be seized upon by the advocates of the theory that the sulphur in the auriferous pyrites of Colorado is in chemical combination with the gold, as gold is classed by them in the platinum group. Wohler proposes the name *laurite* for the new mineral.

—M. Engelbach has discovered in the basalt of Annerod, at Giessen, near the Hartz Mountains in Germany, small quantities of the following very rare metals: Lithium, rubidium, titanium, and vanadium, together with traces of copper, cobalt, lead, tin, and chromium. There is much probability that with careful analysis, a trace of most of the metals might be found in nearly or quite all eruptive matter.

—A recent French work gives the following: Into a bell-jar full of air, a tube, entering at the bottom and carried nearly to the dome, carries a slow current of hydrogen—electric sparks are passed through the jar above the mouth of the tube; the hydrogen ignites and darts about the glass in the form of small luminous spheres. These soon become very numerous, and rush all round the inside, but never touch each other.

—In electrotyping, instead of covering the moulds with plumbago, it is better to cover it with acetate of copper or nitrate of silver, afterwards submitting them to the action of sulphuretted hydrogen.

—At a late meeting of the Boston Society of Natural History, Dr. B. G. Wilder exhibited a yellow band of the silk of *nephila plumites*, the geometrical spider, which had been woven in the middle of a ribbon by a power-loom. The thread consisted of eighteen threads reeled directly from the living spider. Twenty threads of the cocoon of the silkworm were necessary to make a thread large enough to be woven in the usual way.

—According to C. Robin, the ray is an electric fish, although less so than the torpedo.

## EDUCATIONAL INTELLIGENCE.

### NEW ENGLAND STATES.

**NEW HAMPSHIRE.**—The House of Representatives has decided to locate the Agricultural College at Hanover, in connection with Dartmouth College. The State will have five trustees and the college four, and the State reserves the right to assume the full control after fifteen years.

**MASSACHUSETTS.**—George Peabody has just made another gift of \$100,000 to the Peabody Institute, established by him at South Danvers. This gentleman has Yale College next on his list of endowments. It is said that next spring he will begin the erection of a building for a geographical cabinet, with ample accommodations for a chemical laboratory and a philosophical lecture-room.—The Boston public library contains 128,000 volumes. Its largest con-

tributors are Joshua Bates, of London, who gave \$100,000 worth of books, and Theodore Parker, who left 11,000 books and 8,000 pamphlets. In 1865 nearly 195,000 books were lent, or an average of 708 per day. The greatest number given out in a single day was 1,464. The superintendent reports a constantly improving character in the circulation: that it is tending strongly to the more substantial and useful class of books.

**CONNECTICUT.**—The late Augustus R. Street left by will \$100,000 to Yale College. This, with his donations while alive, swells the aggregate of his gifts to the college to more than \$250,000.—The Sheffield Scientific School buildings at New Haven have been enlarged by the generous patron of the school, Joseph E. Sheffield. Two towers have been built, one for the new

telescope and the other for the meridian circle. The instruments are also the gift of Mr. Sheffield, who has spent in all some \$150,000 upon the school and its buildings. —Mr. James B. Hoamer, of Hartford, has given \$50,000 to the Theological Institute at Hartford.

#### MIDDLE STATES.

**NEW YORK.**—The burning of the Medical School buildings of the University of New York is not likely to prove so great a calamity as at first supposed. The school has formed a connection with the New York Hospital, whereby it secures advantages excelled by those of no similar institution in the country.—Cornell University, at Ithaca, New York, is advancing towards complete organization. Ezra Cornell gave \$500,000, and the State pledged the income from its land-grant fund, in order to secure the establishment of this institution. The agricultural department will be opened in 1867. The annual income of the building-fund is \$35,000. The policy in erecting the buildings will be to use only the income, and have the general fund unimpaired. Mr. Cornell is buying in and locating the land scrip, and hopes to secure \$3,000,000 as the grand endowment of the institution.—Rochester University intends to erect a memorial tablet to the memory of those of its students who fell during the war.—At a late meeting of Methodists in Rochester, it was resolved, that "in our judgment, the three annual conferences, Oneida, Black River, and Wyoming, should realize the sum of at least \$300,000 for the purpose of endowment of the Genesee College, provided it be removed to a more central location."

**PENNSYLVANIA.**—The last report of the Philadelphia Public Schools shows a total of three hundred and seventy-three schools, one thousand three hundred teachers, and seventy-eight thousand scholars. Total expenses for the fiscal year \$319,419 87. Increase over previous year one thousand six hundred scholars.

#### SOUTHERN STATES.

**DETROIT OF COLUMBIA.**—The following bill has passed the House of Representatives:

*Section 1.* That there shall be established at the City of Washington a Department of Education for the purpose of collecting such statistics and facts as shall show the condition and progress of education in the several States and Territories, and of diffusing such information respecting the organization and management of schools, the school system, and methods of teaching, as shall aid the people of the United States in the establishment and maintenance of dif-

ferent school-systems, and otherwise promote the cause of education throughout the country.

*Section 2.* That there shall be appointed by the President, by and with the advice and consent of the Senate, a Commissioner of Education, who shall be intrusted with the management of the Department herein established, and who shall receive a salary of \$4,000 per annum, and who shall have authority to appoint one chief clerk of his department, who shall receive a salary of \$3,000 per annum, one clerk who shall receive a salary of \$1,800 per annum, and one clerk who shall receive a salary of \$1,600 per annum; which said clerks shall be subject to the appointing and removing power of the Commissioner of Education.

*Section 3.* That it shall be the duty of the Commissioner of Education to present annually to Congress a report embodying the results of his investigations and labors, together with a statement of such facts and recommendations as will, in his judgment, subserve the purpose for which this department is established. In the first report made by the Commissioner of Education, under this act, there shall be presented a statement of the several grants of land made by Congress to promote education and the manner in which these several trusts have been managed, the amount of funds arising therefrom, and the annual proceeds of the same, as far as the same can be determined.

*Section 4.* That the Commissioner of Public Buildings is hereby authorized and directed to furnish proper offices for the use of the Department herein established.

The report on the colored schools for May is gratifying. There are 63 day-schools, with 126 teachers and 6,414 scholars. The night-schools are 12 in number, with 468 scholars, and there are 19 Sunday-schools with 2,555 scholars. The industrial schools reported are 5 in number, employing 181 women.

**VIRGINIA.**—C. H. McCormick has subscribed \$30,000 as endowment of a professorship in the Union Theological Seminary, near Hampden Sidney College, Virginia. He has also added \$5,000 to his contribution of \$10,000 for the endowment of a professorship in Washington College, Lexington, of which General Lee is president.

**SOUTH CAROLINA.**—Superintendent Tomlinson reports 75 freedmen-schools in South Carolina, with 9,017 pupils, and an average attendance of 6,574. There are 148 teachers, of whom 58 are natives and 60 colored. One other school, from which there were no returns, would swell the number of pupils to 10,000. The interest of the colored people in the schools continues unabated, and that of the white people is growing; yet there are some places where it is said no school could be established, nor tolerated after the garrison

has been withdrawn. A very successful public examination of the colored school, held in the Normal School building, took place in Charleston, May 30th.

**LOUISIANA.**—The whole number of pupils registered in the forty-two public-schools of New Orleans is 16,749, and the average attendance is 9,732.

#### WESTERN STATES.

**ILLINOIS.**—The directors of the Chicago Seminary have voted to raise \$200,000 for its more complete endowment.

**KENTUCKY.**—The State Superintendent of Instruction, J. D. Stevenson, reports for the year 1865, 3,964 schools, the number of children residing in districts in which schools were taught, 297,772; the highest number attending school, 144,364; the lowest, 49,280; the average attendance, 92,957. The school fund amounts to 1,400,000, and is invested in State bonds and bank-stocks.

**TENNESSEE.**—The Nashville *Dispatch* has some important figures upon the condition of public-schools in that city, which go to show a remarkable progress, despite the injurious influences of the war. It says that in 1865, 1,172 tickets were issued to the pupils, 24 teachers employed, and \$13,407 expended for school purposes. In the year just closing, however, it appears that 3,184 tickets were issued, 50 teachers employed, and \$50,000 was the amount of school estimates.

#### FOREIGN.

**ENGLAND.**—The Ragged School Union, London, presided over, like the City Mission, by Earl Shaftesbury, reported 326 Sunday-schools, with an average attendance of 26,000; 204 day-schools, with an average attendance of 18,750; and 317 evening-schools, with an average attendance of 8,384; total, 747 schools, with an attendance of 61,984. This is an increase of about 70 schools and 3,000 scholars. The Union employs 396 paid teachers and 430 paid monitors in its schools. It has 450 boys and girls in the refuges connected with it. Its clothing clubs have received £1,639 in deposits. Its penny-banks have had £6,778 deposited in them during the year past. Its shoe-black brigade, numbering 313, has earned £7,002, and in the fifteen years since the brigade was formed there has been a total earning of £55,708. 12,845 volumes are in the lending libraries of the Union.—Mr. Goldwin Smith is to resign his professorship at Oxford at the close of the current academical term. Among his probable successors Mr. Froude appears to have the best prospects. Mr.

Ruskin will probably succeed Matthew Arnold as professor of poetry. This professorship is tenable for five years by an M. A. or B. C. L.—A movement has been inaugurated by Archbishop Manning for the education of poor Catholic children in London. There are in that city 29,000 Catholic children who ought to be at school; of these, 7,000 are set down as absolutely without instruction. Thirty-five new schools are required. The archbishop is cordially supported by the Catholic laity and clergy.

**IRELAND.**—A female member of the Irish Presbyterian Church has made to the Assembly's College, Belfast, the handsome donation of £2,000 for the erection of dwelling-houses on the college grounds for two of the professors.

**FRANCE.**—The brothers Siegfried are organizing at Mulhausen, Alsace, a vast commercial college, somewhat on the plan of our American commercial institutions. The pupils, who must have finished their preparatory studies, will be taught foreign languages, book-keeping, ornamental writing, commercial law and geography, industrial economy, and the knowledge of goods in general. Sham business-offices are to be made, in which the forms of business may be acquired.—The government is making great efforts to supply the demand for a non-classical, yet really high course of instruction, which may fit youth for the highest industrial and commercial situations. The course of study determined upon differs little from the scientific course adopted in several of the American colleges.

**RUSSIA.**—Russia has six universities: St. Petersburg, founded by Peter the Great; Moscow, founded in 1755, by the Empress Elizabeth; Wilna, which in 1842 was transformed into the University of St. Vladimir; Dorpat, founded in 1682 by Gustavus Adolphus, destroyed in 1704, and revived by Alexander I. in 1802; Kharkov and Kasan, founded in 1804 by Alexander I. Each university has four faculties, history and philology, physical and mathematical sciences, law and medicine. Each university has fifty professors, with assistant. The students were thus distributed in 1864: St. Petersburg, 628; Moscow, 1,515; Kasan, 325; Kharkov, 523; St. Vladimir, 518; Dorpat, 660; total, 4,084. Of these, 847 were bursars, costing the government upwards of 25,000 pounds sterling per annum.—The gymnasia, or secondary schools of Russia, resemble the great schools of England, and are intermediate between the elementary schools and the universities. In 1864 they were 95 in number, and were attended by 25,429 pupils of all ranks and religions.

**GREECE.**—Amid all the vicissitudes of the nation the national university has in-

creased. In 1837 the attendance was 52; in 1844-5, it had advanced to 1,100. Like the German universities, it has four faculties. In 1844-5 there were 88 students in theology, 92<sup>5</sup> in law, 244 in medicine, and 198 in philosophy. 852 belonged to Greece, and most of the others came from Turkish provinces.

**SANDWICH ISLANDS.**—The details respecting the education of girls are taken from a Honolulu paper: "An hour in the morning is spent in gardening, the girls having under cultivation about two acres of land. Besides this the girls do all their own work, such as washing, ironing, and other house-work. Some of them are quite skilled in crocheting and other fancy work. Every afternoon the whole company, with their lady teachers, either go to walk or indulge in the aquatic sport of bathing and swimming, for which the river affords a fine place. Many of them are said to rival the mermaids in the celerity and grace with which they glide through, over, and under the water. Most of them acquired the art of swimming before they entered the school.

"Special pains have been taken to provide the scholars with all the modern appliances for exercise and out-door sports, such as swinging, rope jumping, etc., in which they exhibit all the zeal and skill of their fair-skinned cousins in this and other climes. With them, however, as with other juveniles, each sport has its day and then goes out of fashion, and to the skill of the teachers is left to provide new ones.

"The girls are all taught to sing, and special attention is given to this branch of instruction, which requires early training

to develop it properly. Most of them sing any of the tunes in the two native tune-books, and also many of the more modern hymns and songs composed by the poets of Hawaii."

**INDIA.**—Both among the Hindoos and Parsees a decided beginning has been made in the education of their girls, and the movement must accelerate as the education of the males themselves becomes elevated and broadened. At the Convocation of the University of Bombay for conferring degrees, it was stated that 102 out of 241 candidates passed the matriculation examination in November last, of whom 86 were Hindoos, 19 Parsees, 2 Portuguese, 1 European, 1 Mussulman. Of 82 candidates, 15 passed their first examination in Arts; of 20 candidates for the degree of Bachelor of Arts, 15 passed examination; and 2 Parsee candidates passed the examination for the degree of Master of Arts.—Mr. Premohund Roychund (a lucky cotton speculator), who had already given \$100,000 to the Calcutta University, has given a like sum to the Bombay University, towards the erection of a library, and a further sum of \$100,000, "towards the erection of a tower, to contain a large clock and a pair of bells."

**HAYTI.**—According to an expose of the State of Hayti for 1865, just published by Government, there are 201 free national schools, daily attended by 13,896 pupils, besides eight private schools subventioned by the State; one clerical seminary, which has already produced three priests; one grand seminary in Paris, attended by government scholars.

## CURRENT PUBLICATIONS.

SOME one has said, and said most truthfully, "Peace hath her victories, no less than war." The invention of the "art preservative of all arts," was an event of more real importance than any other which happened in the fifteenth century. The invention of the cotton-gin was an event more important than any one of the struggles through which our country has passed. Without the cotton-gin, the Seminoles in Florida had not been an obstacle to be removed from the white man's path; without it, Texas had remained a State of Mexico till now; without it, our "erring sisters" had never crowned cotton king.

The introduction of useful inventions, the progress of commerce and of the arts, the

progress of universal education in a State, and the discovery of new sources of wealth, as the gold of California, the copper of Lake Superior, and the petroleum of Pennsylvania, constitute a part of the experience of the people, add to their prosperity and happiness, and are equally worthy of the historian's pen. All such things, in connection with the action of their government, constitute a people's real history.

This truth is recognized in "Berard's School History of the United States."

The main portion of the book has been

(1) SCHOOL HISTORY OF THE UNITED STATES. By A. B. BERARD. Philadelphia: Gessnerthwait & Co. 12 mo., pp. 328. \$1.25.

before the public for several years, and has already gained a high place, and done good service in the schools. The present is a new, revised edition, bringing the work down to the close of the great rebellion.

Instead of a preface, with a catalogue of apologies for intruding upon the good-nature of the public, the author has given an introduction of eight pages, containing a clear and concise account of the discovery of America by Columbus in 1492, and a succinct statement of the adventures and discoveries relating to the western continent down to 1607.

The main work is divided into twenty-four chapters of unequal length, according as their subjects are of greater or less importance. The first ten chapters occupy about one-third of the book, and relate to the settlement and progress of the thirteen original colonies. Here is shown the real origin of our republican form of government, of free institutions, of true religious liberty, and of that general diffusion of knowledge which mark us as a people. Chapters eleven to fifteen inclusive relate to the "War of the Revolution"—its causes, its conduct, and success. The next three chapters include the war of 1812-15, and bring us down to the war with Mexico, and the treaty of Guadalupe Hidalgo. Chapter nineteen is devoted to the political agitations and difficulties from 1833 to the breaking out of the rebellion in 1861; and chapters twenty and twenty-one give a history of the war that followed. Of the remaining three chapters, two relate to the early history, settlement, and growth of the mighty "West;" and the remaining one reviews the moral, educational, and material progress of the whole country.

While the chronology of events is preserved, the narrative is not abruptly broken off for the purpose of strictly following the exact order of time. The story is well told; and the opinions, religion, education, habits of life, and industrial pursuits of the people, are so interwoven, or connected with the narrative, as to make it, brief as it is, what it professes to be, a history of the United States—not of the Government alone, but of the Government and the people.

Aside from the historic facts which they acquire, few boys can well master its pages, without becoming, on that account, better citizens and better men.

The book is well worthy the attention of parents and of teachers. It follows the current of events down to the present time. And it is gratifying to make the acquaintance of an historian whose statements are facts, and who calls things by their right names.

While we are giving due and deserved attention to the study of the history of our own country, other countries and other times should not remain "a sealed book" to us and to our pupils. Ancient history is too generally neglected. Perhaps the one great reason for this neglect is that the books on the subject have hitherto been too large, containing masses of dry and unimportant details. Hence the usual course of study could not admit ancient history. Miss Yonge, the well-known author of "The Hair of Redclyffe," has provided a remedy in the publication of her series of "Landmarks of History." There are three books in the series: first, Ancient History, from the earliest times to the Mahometan Conquest; second, Medieval History, beginning with the reign of Charlemagne, and reaching to the Reformation; third, Landmarks of Modern History, extending from the Reformation to the present time. These most excellent little volumes are the standard in England, and have been largely imported by many of the better private and high schools in this country.

The first volume<sup>2</sup> has recently been published in this country, and the other two will be put to press early enough to meet the requirements of classes which may begin the use of the first. Miss Edith L. Chase, a successful teacher of history in Philadelphia, has skilfully edited the American editions. She has carefully corrected the inaccuracies of the English editions, and has re-written some parts of the Grecian history, besides making several other important improvements. Her "Index for Examination" develops a most important principle. It presents single names and events, and accustoms the mind to connect with each the surrounding and relative facts.

(2) LANDMARKS OF HISTORY. ANCIENT HISTORY; FROM THE EARLIEST TIMES TO THE MAHOMETAN CONQUEST. By MISS YONGE, author of "The Hair of Redclyffe." New York: J. W. Schermerhorn & Co. 16mo., pp. 240. \$1.00

The plan of the book is to bring together the events most necessary to be remembered in ancient history, and to convey a general idea of the characteristics and course of the "Changing Empires" of classical times. In the space, it has been impossible to give much detail. When anecdotes have been introduced, they are such as must necessarily be known, or such as may lead to the better comprehension of the characters and ways of thinking of the great men of old.

The style of the book is pleasant, and will create a thirst for an acquaintance with larger historical works. In many cases it must beget an earnest love for the study of history. Its fascinating influences will draw the young beyond the trashy novels of the day, and create a lasting taste for profitable reading. As a text-book for the study of history, a reference-book for the home or school library, or even a class reading-book, this volume will prove acceptable.

Prof. Goldwin Smith has published a series of lectures on the study of history,<sup>3</sup> delivered before the students of Oxford University. He fully accepts the doctrine of historical progress, although he differs from Draper and Buckle in his estimation of the causes. These gentlemen hold that human progress is produced almost wholly by material influences; Prof. Smith, while he does not ignore the force of physical agencies, maintains that revealed religion has been especially influential in the advancement of our race. In the course of his argument he gives a fine analysis of the strife between the great schools of metaphysics. The lecture on the foundation of the American Colonies is interesting to us, as it gives a dispassionate statement of the causes and effects of the Revolution viewed from a British stand-point. The volume contains also the lecture on Oxford University, delivered by Prof. Smith before the New York Historical Society during his recent visit to this country.

Too little attention is paid in our schools to the study of the fundamental principles upon which our political system is based. The consequence is, few of our young men when they arrive at majority have any bet-

ter knowledge of the rights and duties of citizenship than they would had they never been to school. If the time that is now spent on mythology and equally unprofitable gossip, mis-called history, were devoted to the study of the nature and history of our government and laws, we would have more intelligent voting, and fewer political blunders and abuses to complain of.

For this reason we rejoice at the increased attention which this subject is awakening, and, though we may not wholly agree with the author's views and conclusions, welcome to the list of school text-books *Alden's Science of Government*.<sup>4</sup> Containing, as it does, facts which every American ought to know, it will prove of profit to the general reader, as well as to pupils at school.

In this fast age we are too apt to attempt to cultivate mind as the enterprising gardener pushes forward his early vegetables—in hotbeds. The Roman proverb, *sensus in corpore sano*, will hold good in all ages—and all experience proves that a sound mind must be in a sound body. Every movement towards a system in *physical* education is far more important than elaborate theories for perfecting mental education. Without physical health and vigor mental culture avails little. The popular success of the several schools for physical culture is auspicious of good results. And the demand for teachers of calisthenics and gymnastics in the public schools of our large cities, and the flourishing seminaries all over the country, shows that our leading educators are waking up to the importance of physical education. It is, however, impossible for more than one of a thousand of those who have charge of the education of our children to resort to these schools for physical training. Hence we consider that such men as Prof. Watson, in preparing practical works on calisthenics and gymnastics, have done a most important service. Prof. Watson's first book<sup>5</sup> is a complete manual for individuals and families, and a systematic drill-book for schools and gymnasiums. It gives an extended

(4) THE SCIENCE OF GOVERNMENT IN CONNECTION WITH AMERICAN INSTITUTIONS. By JOSEPH ALDEN, D.D., LL.D. New York: Sheldon & Co. 12mo, pp. 248.

(5) MANUAL OF CALISTHENICS. By J. MADISON WATSON. New York: Schermerhorn & Co. \$1.25. Sent prepaid by mail.

(3) LECTURES ON THE STUDY OF HISTORY. By GOLDWIN SMITH, M. A. 12mo, pp. 269. \$1.75.



and varied course of physical exercises, *without apparatus*. The INTRODUCTION embraces all needful directions, rules, and explanations for instructors and pupils, with sections on phonetics and respiration. Throughout the book the exercises are arranged in accordance with well-known principles of anatomy, physiology, and hygiene. They have been thoroughly tested in our schools, securing the happiest results. These exercises, practised habitually and energetically, cannot fail to yield to youth grace, agility, suppleness, a ready hand, as well as robust health, solid strength, and power of endurance. Almost any school-room or parlor will suffice for the exercises. For those who wish to use the piano to enliven the exercises, there are several pieces of music prepared by the best masters.

The book is profusely and richly illustrated from original designs. It is printed on superior tinted paper, and is bound in the best style. A reviewer in the *Daily Times* speaks in the following terms of this book: "This is the most elaborate and satisfactory attempt yet made to apply practically to educational purposes the great truths of physiology, relating to physical culture and training. The work has evidently been prepared by one who is conscious of the requirements of the learner, and has studied the most effectual way of meeting and supplying them. To those in authority, whose influence would be effectual in promoting the circulation of this book, it becomes a positive duty so to do by every means in their power. All who have the physical welfare of the human race at heart, and understand how powerless the intellect is to contend against the burden of a feeble and emaciated frame, are equally interested in its teachings, and answerable, each in his own sphere, however small it be, for the consequences of neglecting them."

Benjamin Silliman, M. D., LL. D., was born at Trumbull, Connecticut, August 8, 1779. For nearly three-fourths of a century his name appeared upon the catalogues of Yale College. In 1792 he entered it as a student; in 1804 he became Professor of Chemistry and Natural History, and retained this position until 1833, when, having been relieved at his own request, he was appointed Professor *Ameritus*. To his

energy, Yale, no doubt, in great measure, owes its success. His life is not that of an individual merely; it is the history of a great university, and indirectly a picture of the period. The publication of his biography,\* therefore, requires no apology; it is a necessary appendix to the current history of our nation.

As a teacher, Professor Silliman was pre-eminent. As a public lecturer, he had unexampled success. He awakened a love of science in all with whom he met. His books of travel were fascinating to both young and old, and, being among the first American works on Europe, were received with much favor in England. Although his life was devoted to science, Dr. Silliman made few original investigations. In his earlier days he began some important researches, but his energies were necessary elsewhere. His great reputation among scientific men resulted chiefly from his connection with the "*American Journal of Science*," which he established in 1818, and always maintained at his own pecuniary risk. It seldom was a source of profit, more frequently was a serious financial burden. Professor Silliman's private life was that of a consistent Christian man; his heart was ever open, and he was a determined defender of the oppressed. He opposed the slave-power with great vehemence, and during the troubles in Kansas was the subject of much personal defamation, even in the Congressional halls.

Professor Fisher has performed his work, as biographer, well. The greater portion of the narrative consists of an autobiography, written, not for publication, but for the information of the family. It is, consequently, the more valuable, as the facts are given in a simple colloquial style, which seems to open up the whole character of the author. Extracts from Dr. Silliman's diary are produced, and numerous letters are added, yet so as not to break the narrative. The correspondence is voluminous, but Professor Fisher's selections are evidently judicious. The appendix contains several letters of great historical importance, from Washington, Governor Trumbull, and others, none of which had been previously published.

(\*) *LIFE OF BENJAMIN SILLIMAN, M. D., LL. D., Late Professor of Chemistry, Mineralogy, and Geology, in Yale College.* By GEO. P. FISHER, Professor in Yale College. New York: Chas. Scribner & Co. Two vols. 8vo, pp. 407-408. \$5.00.

Dean Alford's "Plea" can hardly be called a scientific treatise. It is of more value as an amusing collection of grammatical anecdotes, if we may so speak, than as a source of useful information. Some ambitious grammarians in our country will be highly gratified, and, doubtless, equally astonished to find their crudities indorsed by one in so high a station. The Dean is heartily in favor of "It is me;" "He is as good as me" is quite proper; and "I am better than him" is the very acme of pure English. In defiance of every respectable grammarian, he thinks the double comparative "lesser" quite elegant. The Dean is evidently a castaway in grammar, and may be quoted as authority for a large number of vulgarisms. His work has given rise to much discussion. Among the opposition, Mr. Moon\* has taken up a heavy cudgel, and his letters upon the Dean's English are in the highest degree pithy and entertaining. He shows the work of Dr. Alford to be inaccurate both in matter and manner, compelling him to shirk direct issues and to defend himself by arguments unworthy of a village debating-club. Altogether, these little books form the most interesting grammatical discussion which has been made public in many years. They are written in an easy style, and each contains much matter which will be found suggestive.

The latest addition to our Shakespearean literature is the testimony\* of a physician to the wonderful extent and accuracy of the great poet's knowledge of psychology, and the truthfulness of his delineations of insanity and imbecility. Dr. Kellogg's position and duties have brought him in contact with almost every condition of mental weakness and aberration, and he has studied Shakespeare in the light of the experience thus gained. His style is pleasing, and his analysis of Shakespeare's characters critical and appreciative. His positions are well sustained by apt quotations, and his book will afford profitable entertainment to all who may read it.

In preparing the "Student's Practical Chemistry" the authors have succeeded in

packing a great amount of information in a small space. No book of the kind which we have seen can at all compare with it in conciseness of statement. For this reason we doubt its value to beginners, for to them the subject must be presented in an attractive manner; to the well-informed student, and to the instructor, the work will be of real utility as a book of reference.

The propriety of an introductory treatise upon Chemical Physics is doubtful. It would be better to incorporate all necessary information on this topic in the chemistry proper, as has been done by Brande and Taylor. The treatise in the "Practical Chemistry" is, however, in advance of most other text-books. The authors have adopted the doctrine of conservation and correlation of forces, and, as far as possible, have introduced the new phraseology. The explanations of polarized light and spectrum analysis are superior; the latter is illustrated by a chromo-lithographic plate, showing the spectra of various metals.

In Part II. we note that three metals, yttrium, erbium, and terbium, are recognized as existing in gadolinite. The existence of the latter two is doubtful. Popp maintains that yttrium alone is to be found; more recently Bahr and Bunsen have determined that terbium, at least, should be stricken from the list of elements. To be accurate, the authors should have made some reference to Popp's investigations, which were published before their work was issued. We perceive, also, that the new metals are placed together under "metals of the earths." This is certainly inaccurate, for though the proper position of thallium and indium is an open question, there can be no doubt respecting cesium and rubidium, which are undeniably metals of the alkalis, and should therefore be classed with K., Na., Li., and Am. The appendix contains a number of useful tables, some of which are not to be found in other elementary works. The book is well printed and bound, and the illustrations, which are very numerous, are much better than those ordinarily given in similar works.

(\*) A PLEA FOR THE QUEEN'S ENGLISH. By HENRY ALFORD, D. D., Dean of Canterbury. Tenth Thousand. New York: Alexander Strahan. 16mo. \$1.75.

(\*) THE DEAN'S ENGLISH. By WASHINGTON MOON, Fellow R. S. of Literature. Fourth Edition. New York: The Same. 16mo, pp. 311. \$1.75.

(\*) SHAKESPEARE'S DELINEATIONS OF INSANITY, IMBECILITY, AND SUICIDE. By A. O. KELLOGG, M. D., Assistant Physician, State Lunatic Asylum, Utica, N. Y. New York: Hurd & Houghton. 12mo, pp. 204.

(\*) THE STUDENT'S PRACTICAL CHEMISTRY. By H. MORTON, A. M., & A. R. JENKS, A. M. Philadelphia: J. B. Lippincott. 12mo. \$3.00.

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American Journal of Education on Dr. HOOVER'S works.

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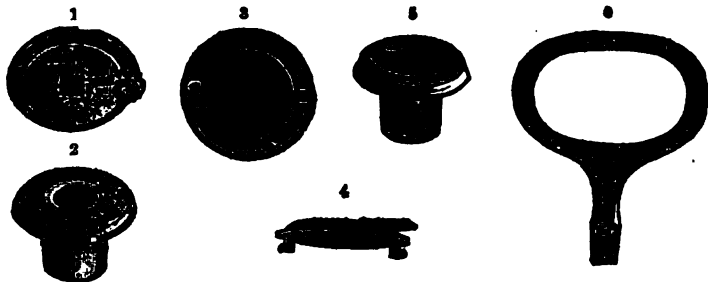


Fig. 1 represents top view of cover; 2, top view of well without cover; 3, bottom of cover; 4, edge of cover; 5, well complete; 6, key to cover. The Ink Well (5) is inserted into desk through hole bored for the purpose, so that the flange rests on surface of desk, and is secured in place by screws in countersunk holes. Flange of well has on its outer edge a lip, which alone rests on desk, leaving space within below interior part of flange. This space allows room in which pins projecting downward from lower side of cover may freely move. Pins have heads (as seen in 4), and are first inserted through apertures large enough to admit them freely in flange of well (as in 2). From these apertures extend, concentrically in opposite directions, curved slots, just wide enough to allow necks of pins to pass freely. Lower edges of these slots have slight inclination downward from apertures, so that as cover is turned the heads of pins become wedged against inclined surfaces, and draw cover closely upon well, on which it fits tightly. Cover is fastened by key (Fig. 6).

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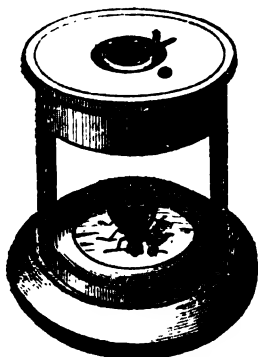
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about the same in substance as that which is maintained in Rhode Island, the Constitution of this State adds the following: "Nevertheless, every sect or denomination of Christians ought to observe the Sabbath, or Lord's day, and keep up some sort of religious worship, which to them shall seem most agreeable to the revealed will of God" (chap. 1, art. 3).

SEC. 14. NEW YORK.—The "lively experiment" of Rhode Island has, it is thought, been fully adopted by the Empire State, and is, at least in substance, incorporated in the Constitution. "The free exercise and enjoyment of religious profession and worship, without discrimination or preference, shall forever be allowed in this State to all mankind (*Const. of N. Y.*, art. 1, sec. 3). The school-teacher, in common with all others, can insist upon enjoying the benefit of this constitutional provision, but it behooves him, nevertheless, to bear in mind, under all circumstances, that he is the agent of the State, and must teach in the spirit of its laws. He should never for a moment forget that his scholars are protected by the law equally with himself. While he may exact from his examiners and others, he must himself also exhibit the liberality and magnanimity in this respect that is proclaimed in the organic law of his State, or he is unfit for the vocation of public teacher, and he may be so declared. The State, however, so far as it can consistently with its organic law, and without prejudice to any, would foster piety in the citizen; and, therefore, it is not considered unlawful to open and close school with prayer and reading of the Scriptures, provided that all discussion of controverted points and sectarian dogmas be carefully avoided. The policy of New York is the same in this respect as that of Rhode Island (sec. 8).

SEC. 15. NEW JERSEY.—The law as to religion is the same, in substance, in this State as in New York and Rhode Island (*Const. of N. J.*, art. 1, sects. 3, 4.)

SEC. 16. PENNSYLVANIA.—This State, like several others, seems to contradict itself on the subject of religious liberty. "No preference shall ever be given, by law, to any religious establishments or modes of worship" (*Const. of Pa.*, art. 9, sec. 3.) "No person who acknowledges the being of a God and a future state of rewards and punishments, shall, on account of his religious sentiments, be disqualified to hold any office or place of trust or profit under this Commonwealth" (*Id.*, sec. 4). If this is an attempt to imitate the liberality of Rhode Island, it is not altogether successful. "We, therefore, declare, that no man shall be compelled to frequent or to support any religious worship, place, or ministry whatever, except in fulfillment of his own voluntary contract; nor enforced, restrained, molested, or burdened in his body or goods; nor disqualified from holding office; nor otherwise suffer on account of his religious belief; and that every man shall be free to worship God according to the dictates of his own conscience, and to profess, and by argument to maintain, his opinion in matters of religion; and that the same shall in nowise diminish, enlarge,

or affect his civil capacity" (*Const. of R. I.*, art. 1, sec. 3). It will be noticed that no condition is here interposed, but the liberty is complete and unrestricted. In Pennsylvania, teachers might constitutionally be required to "acknowledge the being of a God, and a future state of rewards and punishments" (*Const. of Pa.*, art. 9, sec. 4), but in Rhode Island such a requirement would be unconstitutional. In practice, however, it does not appear that the people of the one State are less liberal than those of the other. For in Pennsylvania it is held that "church influence should never be permitted to swerve a director from the line of duty in the selection of teachers" (*School Doc.*, No. 159); and "the religious predilections of pupils and their parents and guardians, are required to be sacredly respected—sectarian instruction not being considered the province of the schoolmaster but of the parent or guardian, and the spiritual teacher selected by him (*School Doc.*, No. 162). Consequently, sectarian works are excluded from the schools (*School Doc.*, No. 187). But "the Scriptures come under the head of text-books, and they should not be omitted from the list" (*School Doc.*, No. 186).

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## OUR NORMAL SCHOOLS.

A TEACHERS' seminary was first established by Franke, about 1704, at Halle, in Prussia; and during the present century the example of Prussia has been followed by Holland, France, Great Britain, and Russia. In our own country, we find that as early as 1816 Mr. Denison Olmsted (afterwards Prof. Olmsted of *Yale College*) proposed for Connecticut a "plan of an Academy for Schoolmasters." But we have no proof that this ever became any thing more than a suggestion. The State of New York first took definite action in so important a matter, in the year 1836, by adding a Teachers' Department to one Academy in each of its eight Senatorial districts. However, as these "Teachers' Departments" were not a primary but a secondary object in the Academies, perhaps some would think they ought not to be considered an institution by themselves. At all events, it was Massachusetts that first established in this country the *Normal School*, so called,—a school designed exclusively for the training of teachers for the Common Schools. In 1838, the subject having been for some time a matter of interest with friends of education in the State, the generosity of Edmund Dwight, of Boston, placed at the disposal of the Board of Education the sum of \$10,000 for this purpose, provided the Legislature would furnish an equal sum. This was done; and soon after, aided by further contributions from individuals and towns, three Normal Schools were established, at Lexington, Barre, and Bridgewater. The State now has four,—at Bridgewater, Framingham, Salem, and Westfield.

We did not intend in this article to give any statistics of the rise and present condition of Normal Schools in the different States ; we have only given enough to tell of the beginnings of the system in this country. We have at present a few words to say upon the merits and faults of the system.

That the theory of Normal Schools is a good one, few will deny. Although observation confirms us in the belief that the best teachers have a natural aptness for their work,—an aptness which is better than all training,—and that the faculty to teach, as well as the faculty to govern, is a gift ; although, too, on the other hand, no amount of training will make a good teacher of many a one we can think of, yet these are the extremes. The question is, whether those of moderate abilities and fair adaptation to such a work are not better qualified for it by a course of instruction under competent persons, which is designed to test and compare the efficacy of different methods, and to afford a sort of trial-ground for the practice of these methods ; also, whether even those of superior abilities and decided powers of adaptation are not thus roused to a keener interest in their work, if not to the discovery of new and improved methods ? As for those whom nature never designed for the important work of teaching, and whom, consequently, no art can qualify, such a system ought, it seems to us, to do great good to the community by pronouncing them incompetent, and refusing to recommend them at the conclusion of the course of study. Certainly two years should be sufficient to sift out all such ; and perhaps, to be perfectly fair to them, unless in extreme cases, they should be allowed to remain through this time, that their mental *status* may be fully known.

Yes, we think the theory of the Normal School is sound ; and its practical workings have not prevented many great thinkers from giving testimony in its favor ; such men as Franke, Cousin, Lord Brougham, Dr. Channing, De Witt Clinton, etc., etc. There are only two points of difficulty, as it seems to us. First, *there should be at the head of such schools superior men.* They should be men of liberal education (not merely, as the phrase is, “liberally educated”) ; for if their knowledge is bounded by the limits of arithmetic, geography, and grammar, and a smattering of information on higher topics, their pupils will be very likely to be as superficial and pretentious as they are. They should themselves have been experienced and successful teachers ; for thus only can they give practical instruction in the art of teaching. Moreover, they should be men of genial disposition and cultivated manners,—in one word, *gentlemen* ; for their unconscious influence in this very important part of education, upon those whom they are thus preparing for the teacher's work, will be again reproduced upon the more impressible minds of children. Again, *there should be great care in pronouncing any fit to teach and recommending them to the public.* In Prussia, besides the Teachers' Seminaries, there

is in many places a kind of preliminary school, "where pupils are received, in order to determine whether they are fit to become candidates to be candidates." If, from any failure of body or mind, one is here pronounced incompetent to teach, and dismissed at the close of his probationary term of six months, he is thus prevented from ever entering the Teachers' Seminary. Or if he goes on into this school, he has again to stand the test of a more severe examination after his three years' course of study. Saying nothing of such strictness as this, we are sure there has been with us too much laxness in this matter.

It is a failure in just these two points which we have noted, that has caused a deep-seated prejudice against Normal Schools in the minds of many of the community. Some of the States may have always had worthy men at the head of their schools of this class; but we know of one, at least, the Principal of whose Normal School, while he is esteemed as a very good man, is far from commanding respect for his attainments. It is of no use to parade the names of any such on the pages of educational journals, nor to dub superficial Normal School teachers with the title of "Professors;" the better portion of the public soon detect the empty sound. Again, we are not the only ones who have met with graduates of Normal Schools whose want of knowledge has been as evident as their self-conceit has been disgusting. These are they who, from their talk, seem to think that all the wisdom of the world is centered in some Normal School; and when we associate their idea of wisdom with the fact of their ignorance, what wonder that the Normal School is brought into disrepute? Now we do not think there is any thing in the system necessarily tending to foster this self-conceit; we only say that such persons, male or female, should never be allowed to graduate. The evil, in a measure, works its own cure, for such superficiality generally soon spends itself, and teaching is abandoned; yet even in this case, the reputation of the Normal School is injured, and the profession of teaching thought less of.

We consider the Normal School system an effective way of training Common-School teachers for their work, and the only effective way which has yet been discovered. Horace Mann, at the conclusion of his term of office as Secretary of the Massachusetts Board of Education, on looking back over the special instrumentalities used for twelve years to improve the Common Schools of that State, says: "I can not refrain from assigning the first place, in adaptedness and in efficiency, to our State Normal Schools." And the experienced visitors of one of the best Normal Schools in the country, in their last report, say: "After having shared in the benefits of the system for more than a quarter of a century, the policy of maintaining it may be considered as settled. It only remains to make it as perfect as the experience and observation of its friends may enable them to do." From this we have no wish to dissent; and any strictures we may have made have been only to the same end. The great need

is of *more thoroughness* in education. Teachers are to be better qualified for their work ; scholars are to be made to understand that they *must study*. Nor is there less call for all this in our higher schools, and, alas ! in many of our colleges. When teachers, from highest to lowest, shall not be permitted to take their places before good evidence is given of their competency, and when such inducement of large and permanent remuneration shall be offered, as to draw men of decided talent, who wish also to secure a respectable livelihood, then teaching shall be established as a profession, and the best interests of education shall rapidly advance.

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## AEROSTATION.

### EARLY ATTEMPTS.

THE earliest aerostatic attempts on record were imitations of the flying apparatus of birds. Archytas of Tarentum, a Pythagorean, is said to have constructed an automatic pigeon which could fly. In the thirteenth century a citizen of Bologna flew from the mountains of Bologna to the river Reno, and was so unfortunate as to sustain no injury ; for he thus drew upon himself the wrath of the Inquisition, which pronounced him in league with the devil, and put him to death. In 1742 the Marquis de Bacquerville advertised that on a certain day he would fly from his house on the *Quai des Theatins* to the Tuileries. He actually accomplished more than half the distance, when, losing his strength and being no longer able to use his wings, he fell into the Seine, where he struck a floating laundry and broke his leg.

### BALLOONING.

The first enunciation of the principles on which aerial navigation must depend was by Roger Bacon, in the twelfth century. This indefatigable student had discovered that air possesses weight, and he therefore conceived that if a hollow globe of thin brass were filled with "liquid fire or ethereal air" it would float in the atmosphere as a hollow vessel floats upon water. To what he referred by liquid fire and ethereal air can not be determined ; but these are generally known as alchemistic terms for rarefied air. But Bacon made no attempt to sustain his theory. It therefore fell into oblivion, and we hear of no efforts in this direction until the middle of the eighteenth century, when Cavallo experimented rather unsuccessfully with hydrogen.

In 1782, Stephen and Joseph Montgolfier, wealthy paper manufacturers at Annonay, noting that clouds and smoke rise in the air, concluded that a bag, made of light material, would also rise if inflated with smoke or

some similarly expanded substance. They therefore made a small balloon,\* of fine paper, and filled it with rarefied air by a fire of chopped wool and straw kindled underneath. When fully inflated, the apparatus rose with such ease that the brothers were encouraged to exhibit the discovery on a much larger scale. On this occasion a linen bag, twenty-five feet in diameter, was used. It rose rapidly to a height of one thousand feet, and, after some time, fell at a distance of three miles from its starting point. The discovery now attracted the attention of the French Academy, at whose request the brothers went to Paris, and there constructed a new balloon, seventy-four feet by forty-one, elegantly ornamented, and weighing one thousand pounds. When released from the ropes, this, with a load of five hundred pounds, reached an elevation of one thousand five hundred feet, where, unfortunately, a gust of wind overturned it, and caused such material injury that a new machine was necessary for further experiments.

The investigations of the French Academy appeared to prove that man could, by means of the new discovery, navigate the atmosphere; and it was not long before persons of sufficient daring were found to undertake aerial voyages. Montgolfier having offered to make a balloon of more durable texture, M. Pilatre de Rozier consented to be the first aeronaut. The new machine was seventy-four feet by forty-eight, weighed about one thousand two hundred pounds, and was ornamented with the zodiacal signs and the royal insignia. In this M. Pilatre made several ascensions, and on one occasion, accompanied by the Marquis d'Arlandes, attained a height of three thousand feet, and descended about five miles from Paris.

#### HYDROGEN GAS EMPLOYED.

Ascensions in the Montgolfier balloons were always dangerous, and were never very extensive. To remedy these defects, Dr. Black recommended hydrogen as a substitute for rarefied air. Acting upon his suggestions, the French Academy employed Messrs. Roberts to construct, under the supervision of Prof. Charles, a silken balloon, thirteen feet in diameter. When set free, this almost instantly attained a height of three thousand feet, and, after remaining suspended for three quarters of an hour, descended fifteen miles from Paris. This experiment was so successful, that a larger balloon, of twenty-seven feet diameter, was immediately made. In this, on December 1st, 1785, Prof. Charles with M. Roberts ascended six thousand feet, and, after an absence of one hour and three-quarters, descended twenty-seven miles from Paris. Here M. Roberts left the car, and, there being still some ascensive power, Prof. Charles reascended, rising almost immediately nine thousand feet, and ultimately, by throwing over ballast, ten thousand feet. When he left the surface

\* So called from its resemblance to a chemical instrument then much used.

the thermometer stood at 57° F., but in ten minutes it sank to 21°. When he started the sun had set, but when he attained the extreme height it was again visible. "I was," he said, "the only illuminated object, all the rest of nature being plunged in darkness." This ascension is important, as it first proved the existence of counter-currents in the atmosphere.

In the same year M. Blanchard, with Dr. Jeffries, an American physician, crossed from Dover to Calais in two hours and one-half. The voyagers were several times in great danger, but especially when nearing the French coast. They were met with great consideration, and M. Blanchard received twelve thousand livres from the king. M. Pilatre de Rozier attempted to rival Blanchard by crossing in the opposite direction. In order to avoid the dangers encountered by the latter, he fastened a small Montgolfier balloon to the car. Scarcely had he risen three thousand feet, when the upper balloon took fire from the lower: a fearful explosion followed, and the aeronaut was soon afterwards found in a fearfully mangled condition. This was the first fatal accident—there have been many since.

Previous to 1821 few aerial voyages were made. The manufacture of hydrogen was expensive, and balloons were so clumsily constructed that none but foolhardy men would risk their lives in them. In that year Mr. Green, who during his life made more than two hundred ascensions, conceived that light carburetted hydrogen, or illuminating gas, would answer equally well, and be far less expensive. His experiments were successful, and gave a wonderful impetus to the science.

#### PARACHUTES.

It has been long known that an umbrella held over the head greatly retards the rate of falling, and that a contrivance of the sort has been much used by vaulters in the East. The disaster to M. Pilatre led M. Blanchard to experiment with an umbrella-shaped parachute, or "guard in falling." To this he attached a dog, which, though dropped from a great height, reached the ground unhurt. In 1802 M. Garnerin descended safely from an immense elevation by aid of a parachute twenty-three feet in diameter. In 1837 Mr. Cocking attempted a descent in a peculiar parachute of his own invention, one hundred and seven feet in circumference, but was killed, the apparatus being too feebly constructed. Owing to an impression fast gaining ground among aeronauts, that, in bursting, the balloon itself forms a parachute, these protectors are seldom used. Mr. Wise, one of the most intrepid voyagers, has twice tested this theory. On the first occasion the balloon burst at the height of eleven thousand feet, and, immediately assuming the umbrella shape, descended at a uniform rate of speed. At the second trial the mass of the balloon collected on the side, and threatened destruction to the voyager. It, however, "caught the wind as a sail," and descended uniformly.



## SENSATIONS OF AERONAUTS.

In the early days of ballooning, when ascensions were the privilege of few, aeronauts saw strange sights and experienced peculiar sensations. One old voyager reported that birds, when dropped from a balloon, fly round for a few minutes as though bewildered, and then return. The truth is, birds drop vertically until they distinguish some object, after which they descend in a spiral. Another asserted that, after he rose to a great height, his head became so small that his hat fell down over his face. *Per contra*, another philosopher said that his head became so large as to burst open his hat. Of the two, we prefer the latter account, as more in accordance with probability. Perhaps the most astonishing experience on record is that of a scientific man, well advanced in years, who took a lonely voyage to a great elevation. His wrinkled face and hands filled out, and appeared to regain the freshness and beauty of youth. Unfortunately, the rejuvenation disappeared as he descended to denser strata, and the elixir of life remains undiscovered.

The best description of an aeronaut's sensations is that of Mr. Glaisher, the English meteorologist, whose late ascensions have rendered his name familiar to us all. "On the 5th of September, 1862, at one o'clock p. m., the ascension commenced. They reached two miles in height at twenty-one minutes past one o'clock, and reached the fifth mile ten minutes before two, when the thermometer had fallen to 2° F. Up to this time Mr. Glaisher had taken observations with comfort; soon, however, both observers breathed with difficulty, their sight became dim, and their hands almost useless, so as to be unable to write. Mr. Glaisher became insensible, and Mr. Coxwell felt that insensibility was coming over himself. Becoming anxious to open the valve, he found his hands failed him, and he instantly seized the line between his teeth and pulled the valve two or three times, until the balloon began to descend. In the course of a few minutes Mr. Glaisher revived, and by the time he reached the earth his faintness had entirely disappeared." During this extraordinary voyage, in comparison with which all others sink into utter insignificance, the aeronauts must have attained the altitude of six miles.

## UTILITY OF THE SCIENCE.

Thus far aerostation has proved of little utility. Advantage has been taken of it to solve meteorological questions, but the results have not equalled the expectations. The oscillatory motion of the balloon renders delicate experimentation impossible, and, after passing a height of four miles, the personal distress of the observer is so great, that careful investigation is entirely out of the question. During the last decade of the eighteenth century the French government maintained a corps of balloonists in connection with the army. In June, 1794, just before the battle of

Fleurus, M. Conté ascended twice, and procured such valuable information that, on the following day, Gen. Jourdan gained a decisive victory over the Austrians. Balloons were also used, to some extent, in more recent European wars. At the beginning of the late civil war our government employed balloons, but soon abandoned them as entirely useless.

For fifty years it has been a favorite notion with some that eventually balloons will supersede steamships, and that voyages now requiring many days will be performed in a few hours. It is certain that balloons may be thus used, if the wind be favorable ; for a few years ago La Mountain, with two companions, made a voyage of upwards of a thousand miles. Numerous other voyages, varying in length from fifty to two or three hundred miles, have been successfully performed, and the speed in several instances exceeded the best ever made by a passenger-train on a railroad. The main difficulty to be overcome is the resistance of the wind. Within a few years several plans have been published which appear feasible. The late Gen. Mitchel advised the construction of a machine in which the propelling power should be the revolution of large spiral fans worked by steam. He estimated that fans twenty feet long, and made of copper, would propel a vessel weighing six tons. The principle is not new, and is exhibited in a little toy of which many thousands are in use. In France an enterprising aeronaut recently tested an apparatus by which he proved it possible to move against currents of wind, and to ascend or descend without recourse to the valve. The principle upon which he works has not been made public.

The most plausible method yet presented appears to be that of Dr. Andrews. In 1849 he constructed his first aerial ship, eighty feet long, twenty feet wide, and ten feet deep. No thorough experiment was made with this vessel. In 1862, having become convinced of the uselessness of the present form of balloon in army reconnoitering, he made drawings, and wrote a description of his invention, and offered the whole to the government. Receiving no encouragement, he made a public exhibition of his apparatus at Perth Amboy, in 1863. The form was that of three cigars secured at their longitudinal equators, and supporting, by one hundred and twenty cords, a car sixteen feet below. The ascension was successful. The vessel rose in a spiral, at the rate of one hundred and twenty miles per hour, and appeared to move as easily against the wind as with it. A short time since Dr. Andrews made a second ascension, but was not so successful as on the first occasion, the ropes connected with the steering apparatus having become disarranged. Enough, however, was gained to show the feasibility of the plan. The motive power is simply gravitation. When a sheet of paper is thrown into the air it does not fall vertically, but in the direction of least resistance ; it slides down. The air-ship is constructed on the same principle. When the aeronaut wishes to ascend, he throws the ballast towards the stern, and the vessel,

instead of rising vertically like a common balloon, slides upward, all the time moving forward. When he desires to descend, the ballast is thrown toward the bow and gas is suffered to escape, and the ship slides downward. Thus, by a succession of ascents and descents, the navigator goes forward, the time and distance being limited only by the supply of gas and ballast.

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### "SHALLOW THEORISTS."

"**S**HALLOW THEORISTS" is a term applied by an author, in a late treatise on school government, to that class of speakers and writers who oppose the practice of flogging in school. We are left to the meager self-explanation of the paragraph in which this expression occurs for a discovery of the author's meaning. Brevity so distinguishes that paragraph, that a passing wit-hunter would, on seeing it, pause and make eager search therein, in the full assurance that at last he had hit upon the very body wherein dwells the soul of wit. Its length just suffices to enable the author to say that, of course, the opposition of "shallow theorists" to the practice of flogging pupils is not worthy of consideration.

We could wish that he might be mistaken in his estimate of those who oppose this practice. We are acquainted with not a few interested in school affairs—teachers, school officers, and others—who oppose the practice, and yet are reputed as experienced, and wise, and practical, and successful. We do not wish now to have our opinion concerning them changed. And, besides, we earnestly desire that the dismal talk which the practice has occasioned in all generations since schools were established might die away in ours—a practice which pupils have always regarded with such abhorrence, that there has ever largely existed in the minds of the young a peculiar dislike for the teacher, arising from associating the rod with his occupation. Dislike for the teacher engenders dislike for study, and even if the latter exist not, there remains an indisposition to receiving instruction from a disagreeable person. The first requisite in teaching is the gaining of the pupil's good-will. The veriest ruffian in a school becomes manageable when the teacher secures his good-will. In most cases he is not a ruffian anywhere but in school. And he is a ruffian there because he enters under the influence of the traditional notion that he will be flogged if he does wrong. Deeply seated in the nature of man is an aversion to being struck. A blow is felt to be an insult. It degrades. It assumes that one cannot be reached by the way of reason, like a human being, but must be reached by the way of bodily pain, like a brute. The pupil may not be able to state his thoughts, but he feels that he is treated as a brute. You can not beat that out of him. You may say that he is struck because he is irrational, but the striking makes him less rational. It may, in its way,

finally prevent a recurrence of an offence, but not through reason humanly, but through fear brutishly. And the aversion rises and makes the striker its object. In ninety-nine cases out of a hundred it does. In the hundredth case the pupil recognizes in the teacher what is really existent, a spirit of good-will prompting him, however mistakenly to the pupil's mind, to inflict the blows for the pupil's good. It is on account of this that pupils are found who afterwards regard with friendliness teachers who have whipped them. But we believe it to be the hundredth case—the thousandth, perhaps. In the ninety-nine, or the nine hundred and ninety-nine, the pupil dislikes, yes, hates, his flogger. And the dislike communicates itself to the minds of other pupils, even those who are never flogged. It is the old Roman spirit that deemed a blow an indignity, and made every Roman citizen feel with the one who might have been struck. It is the spirit of Paul when he retorted to the High Priest who had commanded that he should be smitten on the mouth, "God shall smite thee, thou whited wall!" Undegraded humanity sympathizes with Paul.

The customary practice of flogging pupils, then, fosters in the minds of the young a general feeling of dislike for teachers—a most serious obstacle to success in teaching. A teacher, it is true, has the opportunity of displacing the dislike when in their turn the young come in contact with him; but if he does not—if he still fosters its development—he is lessening his own value to his employers by closing up the avenues by which instruction is conveyed to the pupil's mind.

And all this, assuming moderation in the use of the rod. But if we consider the conditions under which the rod is used in school, we shall see that the cases of indiscriminate whipping must needs be certain and frequent. The conditions are such as the combined wisdom of centuries seeks to prevent, in other spheres, as productive of wrong and cruelty. The offended party punishes the offender. Now, taken as an abstract question, not the teacher but his law is the object offended by the transgressor, and it is from this point of view that speakers and writers upon the subject of corporal punishment have so calmly and benignantly assumed that the pain is inflicted in a loving, parental sort of way, and is followed by smiles from the whipper, and affectionate acknowledgments from the whipped. We fear that this is an impracticable mode of treating the subject. Talk as you will, teachers, in too large a measure, are wont to regard a transgression of their rules as an affront to themselves. They are wont to have the feelings of an offended party, and, thus, to be placed in the offended party's position. Aggravation is found in the circumstance that in the school-room the teacher is an absolute monarch, and absolute monarchy, with offences to the monarch, leads to abuse. But, even ordinarily, conventional wisdom asserts that justice is in general sure to be perverted if the management of the offender's case is intrusted to the one offended—that passion, in such a case, is too dangerously apt to rule, not judgment; re-

venge, and not restitution ; cruelty, not mercy ; alienation, and not repentance ; and so it hedges in the offender from the offended, and hands the case over to the management of a number of unoffended minds. Witnesses, a jury, a judge, lawyers, a sheriff, and other officers, manage the affair dispassionately. Not so in the school. The teacher is the offended party, police, witness, lawyer, jury, judge, and sheriff. What is the result ? Just what conventional wisdom assumes it would be. All seven offices are too often filled within the rapid succession of seven brief moments. Vengeance sometimes reserves the blow, and packs the culprit off to the horrible solitude of a room devoted to the purpose, to think upon his sins and look forward to the consequences of them, and wish he was big enough to whip the master. Flogging is too apt to be either the passionately blundering effort of a blind guide to lead one who knows the way into the right path, or else it is unmitigated brutality.

What is the professed object of the flogging ? Correction. What is correction ? It is the process of causing to turn from a wrong state of mind and a wrong course of action to a right state and a right course. What is the state of mind produced by the flogging ? Disgust, resentment, insubordination, the memory of the flogger as an object of abhorrence. What is the course of action produced by the flogging ? Covert disorder, truancy, or a resort to employment too early in life, or a resort to another school, or a suppression of native nobility. Correction ! Perhaps it would be well to learn that saying, *I will be treated rationally.*

That is the point. Reason exists in the pupil. Being there, it instinctively insists on being respected. It is hard enough sometimes, it is true, to reach it. When it lies under rudeness or insensibility to good-will, or determined insubordination, then the reaching of it is hard. Inability to reach it, in any case, however, is a needless defect in the teachers. Difficulty is not impossibility. Reason exists in the most brutish, and in the most brutish it has been reached without corporal punishment. It can be done, however, only when neither pupil nor teacher is in a passion, and only when the teacher feels kindly towards the pupil. An experienced teacher lately remarked, "So far as I have been able to control myself, I have been able, without the rod, to control my pupils." Large schools are kept in the best of order without the rod. Good-will is the law. Disorder there is unpopular, and so is shamed down. The question has, in the present generation, been pushed by facts beyond "theory" into law and settled belief. Certainly, humanity favors the law.

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A YOUNGESTER, perusing a chapter in Genesis, turned to his mother and inquired if the people in those days used to do sums on the ground ? He had been reading the passage, "And the sons of men multiplied on the face of the earth."

## THE OCEAN WINDS.\*

**W**HENCE come they? From the immeasurable deep. Their wide wings need the breadth of the ocean gulf; the spaciousness of the ocean solitude. The Atlantic, the Pacific—those vast blue plains—are their delight. They hasten thither in flocks. Commander Page witnessed, far out at sea, seven water-spouts at once. They wander there wild, terrible! The ever-ending yet eternal flux and reflux is their work.

The extent of their power, the limits of their will none know. They are the sphinxes of the abyss; Gama was their Oedipus. In that dark, ever-moving expanse, they appear with faces of cloud. He who perceives their pale lineaments in that wide dispersion, the horizon of the sea, feels himself in the presence of an unsubduable power. It might be imagined that the proximity of human intelligence disquieted them, and that they revolted against it. The mind of man is invincible, but the elements baffle him. He can do nothing against the power which is everywhere, and which none can bind. The gentle breath becomes a gale, smites with the force of a war club, and then becomes gentle again. The winds attack with a terrible crash, and defend themselves by falling into nothingness. He who would encounter them must use artifice. Their varying tactics, their swift, redoubled blows, confuse. They fly as often as they attack. They are tenacious and impalpable. Who can circumvent them? The prow of the *Argo*, cut from an oak of Dodona's grove, that mysterious pilot of the bark, spoke to them, and they insulted that pilot-goddess.

Columbus, beholding their approach near *La Pinta*, mounted upon the poop and addressed them with the first verses of St. John's Gospel. Surcouf defied them: "Here come the gang," he used to say. Napier greeted them with cannon balls. They assume the dictatorship of chaos.

Chaos is theirs, in which to wreak their mysterious vengeance. The den of the winds is more monstrous than that of lions. How many corpses lie in its deep recesses, where winds beat without pity upon that obscure and ghastly mass! The winds are heard wheresoever they go, but they give ear to none. Their acts resemble crimes. None know on whom they cast their hoary surf: with what ferocity they hover over shipwrecks, looking at times as if they flung their impious foam-flakes in the face of heaven. They are the tyrants of unknown regions. "*Luoghi Spaventosi*," murmured the Venetian mariners.

The trembling fields of space are subjected to their fierce assaults. Things unspeakable come to pass in those deserted regions. Some horseman rides in the gloom; the air is full of a forest sound; nothing is visible, but the tramp of cavalades is heard. The noonday is overcast with

\* From "The Tillers of the Sea."

sudden night ; a tornado passes. Or it is midnight, which suddenly becomes bright as day ; the polar lights are in the heavens. Whirlwinds in opposite ways, and in a sort of hideous dance, a stamping of the storm upon the waters. A cloud, overburdened, opens and falls to earth. Other clouds, filled with red light, flash and roar, then frown again ominously. Emptied of their lightnings, they are but as spent brands. Pent-up rains dissolve in mists. Yonder sea appears a fiery furnace in which the rains are falling ; flames seem to issue from the waves. The white gleam of the ocean under the shower is reflected to marvellous distances. The different masses transform themselves into uncouth shapes. Monstrous whirlpools make strange hollows in the sky. The vapors revolve, the waves spin, the giddy nañads roll ; sea and sky are level ; noises, as cries of despair, are in the air.

Great sheaves of shadow and darkness are gathered up, trembling in the far depths of the sky. At times there is a convulsion. The rumor becomes a tumult, as the wave becomes surge. The horizon, a confused mass of strata, oscillating ceaselessly, murmurs in a continual undertone. Strange and sudden outbursts break through the monotony. Cold airs rush forth, succeeded by warm blasts. The trepidation of the sea betokens anxious expectation, agony, terror profound.

Suddenly the hurricane comes down like a wild beast to drink the ocean—a monstrous draught—the water rises to the invisible mouth ; a mound of water is formed ; the swell increases and the water-spout appears ; the Prester of the ancients, stalactite above, stalagmite below ; a whirling, double-inverted cone ; a point in equilibrium upon another, the embrace of two mountains—a mountain of foam ascending, a mountain of vapor descending—the terrible coition of the cloud and the wave. Like the column in Holy Writ, the water-spout is dark by day and luminous by night. In its presence the thunder itself is silent, and seems cowed.

The vast commotion of those solitudes has its gamut, a terrible crescendo. There is the gust, the gale, the tempest, the whirlwind, the water-spout, the seven chords of the lyre of the winds, the seven notes of the firmament. The heavens are a clear space, the sea a vast round ; but a breath passes, they have vanished, and all is fury and wild confusion.

Such are these inhospitable realms.

The winds rush, fly, swoop down, die out, and commence again ; hover above, whistle, roar, and smile ; frenzied, wanton, unbridled, or sinking at ease on the raging waves. Their howlings have a harmony of their own. They make all the heavens sonorous. They blow in the cloud as in a trumpet ; they sing through the infinite space with the mingled tones of clarions, horns, bugles, and trumpets—a sort of Promethean fanfare.

Such was the music of ancient Pan. Their harmonies are terrible. They have a colossal joy in the darkness. They drive and disperse great ships. Night and day, in all seasons, from the tropics to the poles, there

is no truce ; sounding their fatal trumpet through the tangled thickets of the clouds and waves, they pursue the grim chase of vessels in distress. They have their packs of bloodhounds, and take their pleasure setting them to bark among the rocks and billows. They huddle the clouds together, and drive them diverse. They mould and knead the supple waters as with a million hands.

The water is supple because it is incompressible. It slips away without effort. Borne down on one side, it escapes on the other. It is thus that waters become waves, and that the billows are a token of their liberty.

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### THE ATLANTIC TELEGRAPH.\*

WELL may the story of the Atlantic Telegraph be termed the romance of modern enterprise. Had it been written as pure fiction it would have been ridiculed as utterly impossible, and its hero would have been looked upon as a most exaggerated conception. The perseverance and moral courage of Mr. Field, the projector, are unequalled in history by any examples save those of Columbus and Galileo ; with these his name deserves to be joined as a benefactor of his race.

The project of laying a telegraph under the ocean from Europe to America grew out of the efforts of Mr. F. N. Gisborne to connect St. John's, Newfoundland, with the continent by means of a land telegraph over the island and a swift line of steamers plying across the gulf. Owing to breach of contract by this gentleman's company, his designs failed. In 1854 he came to New York, where he met Mr. Cyrus W. Field, to whom he communicated his plans. At first Mr. Field was unwilling to take any part with him, but afterwards, conceiving the possibility of connecting the two continents, he entertained the project more favorably. Having consulted Prof. Morse and Lient. Maury, and received encouraging answers, he determined to lay the Atlantic Telegraph. His plan was to gain as coadjutors, ten capitalists, who among themselves could readily raise one million of dollars to be expended in the effort. He succeeded in securing four beside himself. All were men of great wealth, Peter Cooper, Moses Taylor, Chandler White, and Marshall O. Roberts. These determined to prosecute the matter without further assistance, and in the fall Mr. Field, D. D. Field, legal adviser of the new company, and Mr. Chandler White went to Newfoundland, to obtain a charter for the New York, Newfoundland, and London Telegraphic Company. These gentlemen were received with great cordiality by the governor, who, by advice of the council, immediately represented the matter favorably to the Legislature, then in

\* HISTORY OF THE ATLANTIC TELEGRAPH. By Henry M. Field, D.D. New York: Scribner & Co. 12mo, pp. 870. \$1.75.



session. This body guaranteed £50,000 in bonds of the company, and granted it fifty square miles of land, with the exclusive privilege for fifty years of laying cables on that portion of the island.

This secured, the company set to work. Their first labor was to construct across the island, from St. John's to Cape Ray, a bridle path, eight feet in width, along which to erect the overland line of telegraph. This was no light matter. No roads existed, the interior of the island was uninhabited, and, as far as had been explored, consisted only of morasses and jungles. But the enthusiasm of the company admitted of no obstacles. Six hundred men were immediately employed, and in less than two years four hundred miles of road were constructed. We have not the space, even if we possessed the ability, to give a just account of this vast work. The difficulties and dangers overcome by the engineers and laborers are surpassed by no modern effort except the Darien expedition.

In the meantime, a submarine cable had been manufactured to connect the island and mainland. In August, 1855, it arrived at Cape Ray, and on the 7th of August the incorporators, with a large party of friends, sailed from New York in the *James Adger* to see the successful completion of the first part. But the company was ignorant of the difficulties before them. The shore line of the cable was fastened, and the vessel containing the coils set out for the mainland. When forty miles had been paid out a fearful storm arose, and, after a few hours, it was necessary to cut the cable to save the vessel. The *James Adger* returned to New York. Some members of the company favored a dissolution, but others insisted upon another effort. Mr. C. W. Field was sent to Europe; a new cable was constructed and successfully laid in 1856.

Thus far all was success; but the million of dollars, originally regarded as sufficient to cover all expenditures, was wholly spent. The company felt unwilling to shoulder the remaining responsibility, and Mr. Field was sent to England to awaken public interest there. At first his reception was cold, but the experiments of Profs. Morse, Thomson, and Fairbairn proved the feasibility of working a cable two thousand miles long, and the soundings by Lieut. Berryman had proved the existence of an extensive plateau on the bed of the ocean along the proposed route. Public opinion changed. The government became interested, and the Atlantic Telegraph Company was formed, with a capital of £350,000 divided into three hundred and fifty shares of £1,000 each. Of these all were taken in Great Britain, excepting eighty-eight which were taken and paid for by Mr. Field, who thereby gave evidence of his confidence in the undertaking. To this company the charter of the New York, Newfoundland and London Company was made over.

Being now in working order, the company, in December, 1856, contracted for the manufacture of the cable, one-half being given to Messrs. Glass, Elliott & Co., of London, and the other half to Messrs. R. S. Newall

& Co., of Liverpool, the whole to be completed by the first of June following, and ready to be submerged in the sea.

In the meantime the British public had viewed the project with the utmost favor. They had granted an annual subsidy of £14,000, and had promised two of the largest vessels in the navy to aid in laying the cable. Immediately upon his return to America, Mr. Field went to Washington, where he laid the matter before the authorities, seeking their approval. Through Mr. Seward a bill, offering privileges similar to those granted by the British Government, was presented to Congress. Contrary to the expectations of its friends, it met with extreme opposition, and passed by a majority of *one*. With great difficulty it was worked through the House, and was signed by President Pierce on the day preceding his political death. An annual subsidy of \$70,000 and the use of the two largest vessels in the navy were granted.

Every thing was now satisfactorily arranged. The noble vessels, *Niagara* and *Susquehanna*, were designated from the American navy; the *Agamemnon* and *Leopard*, from the British navy. Mr. Field was recalled to Europe, where, as general manager of the new company, his services were required. On the 22d day of June, the *Niagara* and *Agamemnon* began to stow away the cable, each taking half, and so heartily did the work progress that in about three weeks thirteen hundred miles of the coil were safely stowed in each vessel. The event was duly celebrated by a gigantic festival given to the sailors and workmen, with their wives; while the officers of the vessels were regaled at a banquet prepared by the stockholders.

The labor and feasting being ended, the *Niagara* and *Susquehanna* left Liverpool the latter part of July, and steamed down to Queenstown, where they were joined by the *Agamemnon* and *Leopard*. Here the cable on the two ships was joined and tested from end to end, and found perfect. This inspired fresh hopes for the success of the expedition, and in high spirits the vessels bore away for the harbor of Valentia. Contrary to the advice of the engineers, it was determined to lay the whole cable in a continuous line from Valentia Bay to Newfoundland. The *Niagara* was to lay the first half from Ireland to the middle of the ocean, where the end would then be joined to the other half on the *Agamemnon*, which was to lay on to Newfoundland.

At Valentia, as at Liverpool, there was a time of feasting which continued for several days. On Wednesday, August 5th, the shore end was landed by the American sailors from the *Niagara*, and was received with the greatest enthusiasm, the Lord-Lieutenant and other nobles seizing the rope and helping to drag it on shore. On the morning of the 7th the vessels set sail, but were checked by an accident which detained them another day. Before they had gone five miles the heavy shore end became entangled in the machinery and parted. It was successfully underrun and

spliced, when the vessels again moved. For four days all went well, but on Monday night the cable ceased to work. The electricians gave it up; the engineers were about to cut it and wind it, when the current returned. Joy again prevailed over the ship, and a few crept to their couches; but before morning these hopes were finally destroyed. The cable, it seems, was running out too freely, probably because of a powerful undercurrent. To check the waste, the engineer applied the brakes and stopped the machine. A heavy strain upon the cable in the water resulted; the ship was in the trough of the sea; as she rose the pressure was too great, and the cable parted.

On the following morning a consultation was held. It was found that 300 miles had been paid out, and that only 1,847 miles remained. This was adjudged insufficient to warrant a continuation of the enterprise, and it was abandoned. Mr. Field hastened to London, there to meet the directors. Though disappointed, these men were not disheartened, and they felt no disposition to abandon the scheme. They had learned the defects of their machinery, and also the difficulties of the project. They set themselves to prepare against these, and determined to make a second expedition in the following year.

The lost portion of the cable cost the company £100,000. But, undismayed, the directors gave orders for the construction of seven hundred miles of new cable, that in case of a similar disaster there might be a surplus, and the enterprise need not be again suspended. The American and British governments again promised their assistance, and Mr. Everett, chief-engineer of the *Niagara*, invented a new paying-out machine, whose brakes were less cumbrous and more regular in their movements than those employed on the first expedition. The cable was reshipped at Plymouth. This process occupied the whole of April and part of May, the line being much longer than before. The cable was now tested. It was perfect, and Mr. Everett's paying-out apparatus worked admirably.

On June 10th, 1858, the vessels sailed from Plymouth. For three days the weather was excellent, but on the 13th the wind began to blow. From this time until the 20th the storm steadily increased in fury. On the 20th, the coil on board the *Agamemnon* shifted, and the vessel was in danger of foundering. But all things have an end, and on Friday, the 25th, the vessels met in mid-ocean, the cable was spliced, and they separated, the *Niagara* for Europe, the *Agamemnon* for America. Before the steamers had gone three miles the cable broke, having become entangled in the machinery on the *Niagara*. A splice was again effected. "Forty miles had gone," says a writer on the *Agamemnon*, "when suddenly Prof. Thomson came on deck and announced a total break of continuity: the cable had parted, and, as was believed at the time, from the *Niagara*." In a moment a blue light and signal gun from the *Valorous*, consort of the *Niagara*, showed a similar belief on that vessel. When the

ships rejoined it was found that at nearly the same instant the operator on each vessel discovered a break about ten miles from his ship. There was now no time for inquiries respecting this mysterious event. Once more a splice was made, and the steamers again separated. This was on Monday. Two hundred miles were paid out, when, suddenly, the cable again parted, this time about twenty miles from the *Agamemnon*. There being no hopes of success, the cable was cut off from the Niagara, and the vessels reluctantly bore away for Queenstown.

The directors met at London. A feeling of the deepest discouragement pervaded the meeting. Some were for selling the cable and totally abandoning the enterprise. But Mr. Field was obdurate. "The ships are still here, and we have cable enough to cross the ocean. Let us make one more attempt." Prof. Thomson still maintained that the enterprise was feasible. Their views prevailed, and the majority of the directors determined to make one more attempt. The vessels were immediately put in condition for a new expedition, and in five days, on July 17th, the squadron was again under weigh. On July 29th, the steamers met in mid-ocean, effected a splice, and moved in their respective directions. On August 5th, the Niagara reached Trinity Bay, Newfoundland, in safety. On the same day the *Agamemnon* entered Valentia Bay, having burned her masts and all the spare timber on her decks for fuel, her coal having failed.

The previous failures of the enterprise had rendered Mr. Field an object of public derision. The present success made him an idol. The news of the completion of the cable caused a wild burst of joy throughout our country. New York city held great meetings, had an immense procession of military and the trades during the day, and at night a brilliant torchlight procession of firemen, closing the whole with a grand pyrotechnic display. The final scene of this display, though not on the order of exercises, far excelled the rest. The City Hall took fire, and was damaged to the extent of \$30,000.

But human hopes are vain. On the very day of this gigantic celebration the Atlantic cable gave its last throb. When this news reached the public the depression was in exact proportion to the elation. Mr. Field was abused on all sides as a deceiver. Many denied that the cable had ever worked, and asserted that the despatches received never passed over the wire; they maintained that the whole was a stock-jobbing affair to enable Mr. Field to sell his worthless stock. How true this assertion was, Dr. Field shows in his work. Mr. Field sold only one of his eighty-eight shares, preferring to hold the rest. That the cable did work is most satisfactorily proved by Dr. Field, who gives in full the various telegrams, and by comparison shows that they could never have been compiled by guesswork. It is certain that at least two despatches were transmitted, countermanding orders for transportation of troops, whereby £80,000 were saved to the British treasury.

The failure of this cable was a fearful disaster to the enterprise. Still Mr. Field did not despair. Application was again made to the British Government, but with only partial success. The public were called upon to give means for renewal of the undertaking, but no money was forthcoming. For five years the project seemed dead. Meanwhile, scientific men were applying tests and making improvements; marine cables were being laid in various parts of the world, and public confidence in an Atlantic Telegraph began to revive. Mr. Field still urged his hobby. At length, in August, 1863, the public feeling was so favorable that, although the funds were not in hand, the Board of Directors advertised for a new cable. The contract was given to Messrs. Glass, Elliott & Co. Every thing seemed prosperous, and Mr. Field, in high spirits, was about to return to America, when news came that there was no money, and further prosecution of the enterprise must be deferred.

"Hope deferred maketh the heart sick." Mr. Field was sick. £600,000 were required for the new cable. The old stock company was without vitality; unless new blood could be infused, the enterprise must fail hopelessly. With characteristic energy he renewed his efforts. He first applied to Mr. Thomas Brassy, who offered to take one-tenth of the whole. Others followed. The Gutta Percha Company, and Messrs. Glass, Elliott & Co., combined to form the Telegraph Construction and Maintenance Co. Thus far only £285,000 had been subscribed. This company offered to take the rest, £315,000. They did more: they took £100,000 of the Atlantic Telegraph Company's bonds. The problem was now solved. The Atlantic Telegraph was to be a reality.

A fresh difficulty was now encountered. The new cable was 2,700 statute miles long, and was much more bulky than either of the former cables. Where could it be stowed? Providence had caused the *Great Eastern* to be built, apparently for this purpose alone, as she is useless for any other. This vessel was then for sale. Her fitness being evident, some of the gentlemen most active in reviving the cable combined to purchase her. She was immediately put at the service of the Atlantic Company. A commander for her was found in Capt. Anderson, of the Cunard steamer *China*.

The work now went on with speed. Mr. Field, with a light heart, returned to America, but early spring found him again on his way to Europe. At length, on May 29th, the work was finished, and on July 15th the great ship bore away to Follhommerum Bay, about six miles from Valentia. Here the shore end was fixed, and the *Great Eastern* set out on the expedition, Sunday, July 23d. For two weeks every thing went well. Within six hundred miles of Newfoundland, and within two days' sail of shallow water, they felt safe. But on Wednesday the signals ceased. Down on the floor of the sea some minute fault had occurred. The men began to wind in the cable; but while they were thus engaged

the steamer drifted and chafed the cable, so that as the injured part touched the wheel it parted, and twelve hundred miles were lost. Canning, engineer-in-chief, declared his intention to grapple for it though it lay two and a half miles below the surface. Three times the cable was secured, but each time the grappling tackle gave way. At last the rope broke, and the expedition was compelled to return.

The expedition for 1865 was over. It did not succeed, yet it was not all a failure. It proved that a cable could be laid; it proved that if the cable should break, it could be recovered by proper grappling appliances. No one was discouraged. A new attempt was immediately ordered. Encouraged by the partial success of 1865, the Telegraph Construction and Maintenance Company offered to construct and lay the cable, to be paid only in case of success.

Legal difficulties having arisen respecting the issue of preferred stocks by the Atlantic Telegraph Company, it was thought best to organize a new company to share the profits with the old one. The new association was termed the Anglo-American Telegraph Company, capital £600,000. It contracted with the Atlantic Company to construct and lay down a cable in the summer of 1866, for doing which it is to be entitled to a preference dividend of twenty-five per centum. The whole capital of this company was secured in fourteen days, the subscriptions varying in amount from £500 to £100,000.

It was already March 1st, only four months remained in which to manufacture 1660 nautical miles of cable and prepare for sea. But the obstacles were cleared away, and all went to work with great vigor. The cable was similar to that of 1865, the machinery was strengthened, and the grappling rope could bear a strain of thirty tons. The steamer herself was cleaned, for in her many voyages her hull had become fouled and was covered with seaweed, muscles, and barnacles to a thickness of two feet. Her boilers were scraped, her engines inspected and strengthened, so that she might be well prepared. On the last day of June every thing was in readiness, and the great ship sailed for the Irish coast. The shore end was again laid, the fifth time, the splice was effected, and the squadron soon disappeared from the coast. The rest is of yesterday. A voyage of uninterrupted success. On the 29th of July, by that cord we in America learned of peace in Europe.

And this is the history of the cable. A monument to American skill and energy. Morse invented the telegraph, Field laid it on the bed of the ocean.

In this paper we have given but a synoptical narrative. Dr. Field's "History," from which we have drawn the facts, is full of thrilling details. It is thoroughly reliable, as the author is brother to Mr. C. W. Field, the projector. It contains much general information concerning the geography of the sea, which, in its connection with the main subject, is of great interest.

# AMERICAN EDUCATIONAL MONTHLY.

OCTOBER, 1866.

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## HOW THE INTERESTS OF EDUCATION ARE ADVANCED.

**T**HE Teachers' Association of this State met at Geneva, July 31st, for the purpose of advancing the interests of Education. The discrepancy between the purpose avowed, and the means adopted to accomplish it, deserves a passing notice.

In the reports of the Association we hear very much of "attractions," "brilliant performances," and the like, but very little of earnest discussion, or hearty endeavor to grapple with the practical questions which should have engaged every attention. "Considerable music was interspersed," reports say, "but the most welcome treat of all was the reading of Miss Potter." In the evening, Linden Hall was crowded to overflowing, Miss Potter being again "the main attraction." There were besides, Mrs. Randall, and the "still further attraction of singers, male, female, and professional."—Truly, we hope the teachers of New York are not responsible for the foregoing classification of the singers who so kindly entertained them.—During the evening, poems were read; professional readings delivered; an operatic air was sung; and, probably, as an interlude to enable the "attractions" to recover breath, Dr. Miller read an Address on our Common Schools. On the following day, the Geneva Select Choir, and a choir of girls, "entertained the assembly" with some of their choicest songs; Prof. Mills "delighted the Association" with a performance on the harp; and Miss Potter and Mrs. Randall further advertised their elocutionary proficiency.

That all these exercises had a primary reference to education is evident from the titles of the various pieces. Prof. Baker, upon invitation, gave a "brilliant performance" of "True love can ne'er forget;" Miss Potter read "High Tide;" and Mrs. Randall, "The Vagabonds."

These intellectual and artistic entertainments were, no doubt, very agreeable; but when we compare such misuse of time with the serious discussions and business-like action of the Association of School Commissioners and Superintendents, which met at the same place earlier in the week, the contrast is any thing but creditable to the Association of Teachers. If teachers seek relaxation and amusement, and choose

to assemble as teachers for that purpose, they have a perfect right to do so ; but we protest against their meeting in the name of the Association of the Teachers of the State of New York, ostensibly to discuss important educational questions, and then making such meeting solely the occasion of mutual admiration and personal display. We do not wish the world to look upon teachers as incapable of discussing intelligently the questions to which their profession gives rise ; or less interested in the details of their calling, than jurists, physicians, and clergymen are with theirs. Members of these professions do not find it necessary to engage the services of singers and dramatic performers to insure a respectable attendance upon their conventions. And it is a disgrace to the teachers of New York that the Association of the Teachers of the State does not possess sufficient professional spirit and ability to sustain its conventions without so much extraneous and comparatively frivolous aid.

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#### THE BEGINNING OF OUR COMMON SCHOOL SYSTEM.

IN his message to the Legislature which met in Poughkeepsie, January 6, 1795, Gov. George Clinton, reminded that body, that while provision had been made for the endowment of colleges and other seminaries in which the higher branches of learning were taught, no legislative aid had been given to *common schools*, and he recommended that provision should be made for their improvement and encouragement.

This was the first official movement made in this State in behalf of these institutions—institutions upon which, under God, depends the preservation of the rights and liberties of the people of these States. Thus speaks the chronicler of those times.

The Legislature passed a law appropriating annually, for five years, the sum of fifty thousand dollars. The act further provided, that a sum equal to one-half the sum received from the State by the several towns should be raised by a tax and added to the appropriation.

From such beginnings our *Common School System* was developed. This happened seventy-one years ago—threescore years and ten—the allotted life of man ; and many an old man of to-day remembers with what joy the news was received in each little hamlet. And they will tell us how munificent they deemed the bounty of the State, and what visions of winter schools, reached through miles of long tramping, filled the imagination, and begot all sorts of vague yearnings.



Since those times, what wonderful accessions have been made to the general mass of information ; what changes in educational systems ; how has wealth increased and altered all the old relations and long-established ways of business ! The boy of to-day has the culture of the man of yesterday ; the girl surprises the woman with her wonderful advancement, and knowledge of things unknown in her girlhood, until the mother doubts that this is a child of her begetting. But we are sometimes led to think that this is not all improvement, and that what we are pleased to style culture is, to a certain extent, mechanical expertness. We sometimes think that we may have a vast deal more learning, but, at the same time, less earnest thought ; and earnest, well-directed thought, makes the man.

Those were the days of Jay, of Livingston, of Josiah Ogden Hoffman, of Ambrose Spencer, of Samuel Jones, of Stephen Van Rensselaer, of Yates, of Philip Schuyler, of Rufus King, of Alexander Hamilton, and of many others whose integrity and patriotism should put to shame the time-servers and trimmers of to-day.

They were men who endeavored earnestly and truly to carry out those two precepts of that greatest of men, Plato ; " first, to make the safety and interest of their fellow-citizens the great aim and design of all their thoughts and actions, without ever considering their own personal advantage ; secondly, so to take care of the whole collective body of the republic, as not to serve the interests of any one party to the prejudice or neglect of all the rest ; for the government of a State is much like the office of a guardian or trustee, which should always be managed for the good of the pupil, and not of the persons to whom he is intrusted ; and those men who, whilst they take care of one, neglect or disregard another part of the citizens, do but occasion sedition and discord."

But though men have grown mechanical ; though individual endeavor has lost its potency ; though processes have taken the place of thought ; though men are more guided by selfish interests—yet a great work has been effected. Information has become as necessary as the air we breathe ; and every day the feeling is growing stronger, that ignorance and self-government cannot go hand in hand. Woman is reaching forward to the higher functions of her nature, and man is every year gaining a deeper insight into the laws that should govern human actions and relations.

We honor thee, first governor of the Empire State, among the great names of those times—and they are great for all time ; not least on the scroll of honor shall thy name be written.

## EDITORIAL MISCELLANY.

**WE** purpose from this time to devote a few pages of our Magazine to the consideration of mathematical problems, questions in English analysis, and such other kindred matter as may be of use to the teacher.

Teachers having difficult questions to propose, or elegant and peculiar solutions of problems, will please direct to

## MATHEMATICAL EDITOR

AMERICAN EDUCATIONAL MONTHLY.

480 Broome Street, New York city.

### PROBLEM 1.

**Demonstrate that, if upon the three sides of a right-triangle, any three similar figures be described, the figure described upon the hypotenuse is equal to the sum of the other two.**

### PROBLEM II.

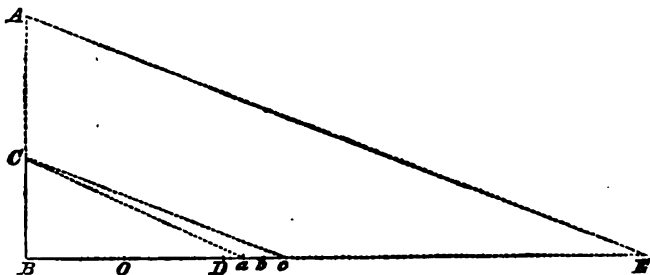
**Demonstrate mathematically that the minute-hand of a clock must overtake the hour-hand.**

## PROPERTIES OF NUMBERS.

Every square number is either divisible by 5, or will leave for a remainder plus or minus 1.

Every cube number is either divisible by 7, or will leave for a remainder plus or minus 1.

*Geometrical construction for a very close approximation to the circumference of the circle.*



Let BD be the diameter of a circle; erect at its extremity B, the perpendicular BC, and make it equal to the radius; prolong BD, and make  $Da=ab=bc$ =one-fifth of the radius; draw  $aC$  and  $cC$ , and make  $BA=aC$ . Now if we draw from A the line AE parallel to  $cC$ , BE will be only one-half millionth part smaller than  $\pi$ .

### DEMONSTRATION.

**As BD=1 Ba=1.1 Bc=1.3**

$$Ca^2 = Ba^2 \times BC^2 = \frac{14.6}{100} \text{ and } Ca = \frac{\sqrt{14.6}}{100}$$

$$BC : Bc :: BA : BE \text{ or } \frac{1}{2} : \frac{13}{16} :: \frac{\sqrt{146}}{16} : BE \text{ from which}$$

$$BE = \frac{13 \sqrt{1.46}}{50} = 13 \sqrt{0.0584} = \sqrt{9.8696} = 3.14159.$$

## EDITORIAL CORRESPONDENCE.

## GERMAN GEOGRAPHICAL PUBLICATIONS.

NÜRNBERG, August 1, 1866.

GERMANY, though pre-eminently a land of books, is not a land of school-books, for, as I have said in previous letters, the method of giving instruction is so different from that employed in American schools, that books are almost unneeded. Whatever can be taught by familiar lectures, is communicated to the child's mind in that way, and the Germans prefer this mode of teaching to that in vogue in America. There is an abundance of reading-books, because that is a department which can not be taught by oral communication. But the great variety of school histories, geographies, arithmetics, algebras, and grammars, which form a conspicuous part of the stock of an American bookstore, is not found in Germany; or if it be too strong an expression to say not found, let me word it, not thrust into the foreground as with us. Little text-books, in pamphlet-form, there are indeed; but they are as unpretentious as possible, and bear the humble name of *Leitfadens*, or *Rudimentary Hints*. The so-called Hand-books which the German press issues are not works for the pupils of the schools, but for the use of the teachers, and contain the materials which are drawn upon to furnish the familiar lectures of the class-room. In one word, the method of instruction employed in our theological seminaries is adopted in all, or nearly all, the schools of Germany; a lecture is given, the pupils take notes, and answer questions the next day upon the instruction imparted. On some accounts this is a good system; it is better at any rate than that of committing the words of a text-book to memory, and repeating them by rote, in the manner prescribed in some schools.

There is one class of text-books known in which Germany excels, and it is to them that I propose to devote a part at least of this letter. It is the Atlases which are used. The teacher may dispense with manuals of descriptive geography, but he can not dispense with the aid of good maps. The method of instructing in this department has called out two classes of works, which are in their respective ways among the most perfect that are known—the Geographical Hand-books, which are to be used by the teachers, and the Atlases, which are to be used by the scholars. Of the Hand-books I do not propose to speak at any length, excepting to say that there is not in the United States or in England, so far as I am aware, any thing so perfect in its way, as the Hand-books of Daniel and Klöden. They are each in three volumes, of about eight hundred pages to the volume, and form an admirable and thoroughly digested summary of all matters connected with geography—not executed in the manner of a gazetteer, but thoroughly worked out in a natural and not an alphabetical order. The authors are thorough geographers. I am personally acquainted with both Klöden and Daniel, and know that they are conscientiously giving the best years of their lives to those admirable manuals, and are keeping the new editions level with the advance of geographical science.

The reader is probably not aware of the fact, that the most of the maps which he sees are mere copies of maps previously existing. Sometimes

the copy is executed with much more skill than the original ; sometimes the engraver adopts a kind of drawing and of lettering which would deceive any one who should not carefully compare the copy with the original ; but the fact remains, that almost all maps which are familiarly known to the public are mere transcripts of others previously existing. The preparation of the first copy of a map is a task requiring the utmost patience and skill. The statistics in the possession of government bureaus, the records of travelers, and a thousand-and-one documents must be consulted, before a reliable original map can be wrought out. Item after item must be gathered where it can be found. Step by step it is filled in, one source yields one fact, and another source another, till at length all is done. It is in this way that the maps published by Justus Perthes, of Gotha, and Reimer, of Berlin, are prepared. Some of the most celebrated maps in the world are merely transferred from those brought out by these two houses. I was assured in Gotha last summer that even the celebrated *Physical Atlas*, published in Edinburgh by no less celebrated a geographer than Mr. Keith Johnston, was, in its first edition, a reproduction of Berghaus' original, with English instead of German names. This was some years ago, however, and now Mr. Johnston constructs original maps, some of them of equal excellence with the German ones.

I gave the reader, a few months ago, a brief sketch of the gentlemen who are at the head of the great Gotha house, known throughout the world as Justus Perthes'. I hoped then to give an account of the system of works which they publish, and which are intended for the use of scholars of every grade of acquisition. I will not pretend to give a catalogue of all the books published by them, but only of their best atlases. These cover the whole field ; there is hardly a single want which some of their works do not meet. These are all original ; and the gentlemen who are engaged in preparing them are among the most competent geographers of our time.

Let me briefly allude to some of the atlases published by Justus Perthes.

First, because relating to the earth in its more general characteristics, and also because the most expensive and elaborate work, is Berghaus' *Physical Atlas*. This is the embodiment of a lifetime of scientific labor. Prof. Berghaus has always been the intimate friend of such men as Humboldt and Dove, and has incorporated the results of their labors in this great work. A very slight acquaintance with German makes the book available to American students, and no geographical library is complete without possessing it. Yet it is an expensive work, and would cost not much less than a hundred dollars in America. Prof. Petermann has, however, worked out and published a little volume, based on Berghaus', and which can be had for a small sum. It is published in the English language, and is a really valuable work—on the whole, the best small physical atlas that I know. The two works of Berghaus and Petermann entirely cover this field of Physical Geography.

The next one to be mentioned is Historical Geography. And in this department the Gotha house publishes a work utterly without a rival. This is the celebrated work of Spruner, known all over Europe, and found in the chief American libraries. The *Historical Atlas* allows the student to take any part of the world's history, and to have before him the configuration of the country about which he is reading, not as it is at present,

but as it was then. Is he looking into the colonial history of North America? He spreads out before him, not a map of the Union as it is, but of the country as it was when possessed by the English, French, and Spanish colonies. Is he reading the history of the German Reformation? He turns to the map of Central Europe in the sixteenth, and not in the nineteenth century. Is he following the victorious steps of Genghis Khan, Charlemagne, or Frederick the Great? He turns to the maps of Asia and Europe which present the political configuration of their times. I have not *Spruner* before me as I write, but if I recollect correctly, there are above seventy-five maps in the whole series, commencing with the very dawn of history, and continuing down to the present time. They have all been carefully drawn up by Major Spruner, an accomplished Bavarian scholar, and cost in America not far from twenty-five dollars.

Mr. Perthes has published two abridged editions of this work, one in English and one in German. The latter can be imported for about three dollars, the former for about five. The German one is much the best, for, in accordance with a hint given by an Englishman, the one intended for England leaves out, for the purpose of distinctness, the lines of mountains; and this makes it impossible for the reader to trace the intimate connection between the history and geography—a connection, I need not say, more markedly determined by the lines of mountains than by almost any other single element. Prof. Dittmar has published an admirable work of this character, small and yet excellent. The substance of this work will, ere many months, be in the possession of American scholars—the Messrs. Appletons having now in the hands of the engraver a selection made by myself from Dittmar's work, with the addition of some of Quin's and Smith's best maps. But no work will be likely to supersede the great work of Spruner; and, although too expensive to be generally owned by private readers, it ought to be in all public libraries.

Next to a Physical and Historical Atlas comes a large and authentic Descriptive Atlas of the world at the present time. This should be to the readers of newspapers what Spruner's should be to the readers of history. And such a work is the admirable atlas known by the name of *Stieler*, and published also by Justus Perthes. Mr. Stieler, who began the work more than a quarter of a century ago, has been dead several years, but Major Stulpnagel, the younger Berghaus, and Petermann have risen to take his place, and a new edition is published every year. There are, I think, about eighty maps in the work, all of them worked out from original materials, and changed every year with the advancement of geographical discovery. The engraving of this work is by no means remarkable for elegance, and a reader not in the secret of the painstaking care which distinguishes it, would have no conception of the value of the Stieler maps. They are stolen, however, in England, France, and America, as well as Germany; sometimes the copy is engraved with twice the elegance of the original, but without a trace of originality, excepting where the spelling must be adapted to the needs of a foreign tongue.

There are several smaller editions of the Stieler maps, consisting of more or less of those in the larger one bound up together. I wish these were better known in America, for they are so thorough as to be far more valuable than the most of the atlases which have currency in the United

States. I ought to say that Stieler's work is published at Gotha in the French, Italian, and Finnish languages, as well as in German. It is very much to be regretted that the house of Justus Perthes does not establish an agency in America to circulate their publications with us; an English edition of Stieler could hardly fail to meet with general success.

Still another want is met in the admirable *Ancient Atlas*, prepared by Dr. Menke, and adapted for use not only in Germany, but throughout the world. The classical names being retained, the work is just as well fitted for American as for German schools. The first part of Spruner's work is, in fact, an ancient atlas; but Menke's work is better adapted by its size for young men in the academy or college. I do not recall the exact price, but am under the impression that it can be imported for about three dollars of our currency.

Justus Perthes publishes also a small *Pocket Atlas*, which is just what its name specifies, local maps of Germany, of great excellence, and a series of geological maps. Two other great undertakings which this house carries on are Sydow's wall maps and the school atlases prepared by the same high authority. Majer von Sydow is well known in Berlin as the most influential member of the geographical direction of the School of War, but all Germany knows him by his excellent wall maps and school atlases. The former are executed in the same style adopted by Prof. Guyot, although our countryman has by no means copied the German maps. Sydow's school maps are simple and chaste in execution; their chief excellence, however, is their accuracy, and, indeed, so far as reliability is concerned, the Gotha maps may always challenge criticism.

Can the reader think of any field not covered by some one or other of these various sets of maps? There are yet two to which I will but briefly allude. Dr. Grundemann is devoting five years to an *Atlas of Missions*, which will be published in both English and German. It was begun about a year ago, when I was in Gotha, and I had the pleasure of becoming acquainted with Dr. Grundemann, and of finding him not only a correct Christian man, but a man thoroughly competent to construct a map which shall clearly lay down the field of operations directed by all existing missionary societies, however small.

Another important work carried on by Justus Perthes is the monthly journal, edited by the great geographer Petermann, and devoted to recording the progress of discovery. It is too well known to require more than a single word of comment, since its circulation is the largest of any scientific journal in the world. Every number contains one or more maps, and no one can follow the advance of geographical science from month to month who does not make himself familiar with the columns of Petermann's *Mittheilungen*.

When to these are added such maps as Van der Velde's of the Holy Land, and the like, there is an accumulation, as the reader will see at once, which it would be impossible to rival. The house of Justus Perthes covers the whole geographical field, and should any new want arise, they will at once meet it. The establishment has been in operation more than fifty years, but it has been constantly expanding in a healthy manner, and now stands stronger than ever. Every work which they publish is as perfect as pains and high scientific qualifications can make it.

W. L. G.

## TEACHING FORTY YEARS AGO.

UNION HILL, New Jersey.

**M**R. EDITOR—I began to teach school more than forty years ago, in an old log school-house sixteen feet by eighteen, with a fireplace so large, that it would take a back-log six feet long and eighteen inches in diameter. With a large fore-stick and plenty of other wood, it would make it too hot for the boys to sit on the ends of the back-log ! Primitive times those were. The trustees were seldom elected ; they held over until called together by something of importance, like the advent of a new teacher, who, if he could write a tolerable hand, could read, and cipher a little, was directed to go round the neighborhood and find how many scholars he could get at one dollar and a half or two dollars per quarter, and board around. Primitive farmers were they in those days ; many before harvest had to buy their bread and seed. In my experience boarding round, I passed through many phases of society among the first settlers. Some lived very well and used cups and saucers, knives and forks. Others would have all the meat cut up in small pieces on an earthen dish placed in the middle of the table ; each one had a fork to dive in and dip in till all were satisfied. With an onion and a little weak tea, the meal was ended.

Many of the descendants of those good people now live in splendid houses, and have as good farms as any in New Jersey. This, in 1819, was before canals or railroads had opened avenues of trade or travel. In course of time, the geologist informed the people of limestone and iron ore ; people began to lime their land, and now no finer farms, nor more beautiful scenery, nor better school-houses can be seen than on the mountains of Jersey. Less than a mile from Budd's lake stands a good farm-house where, in 1820, I experienced some of the pleasures of boarding round. Frequently I looked upon the stars twinkling upon me, through chinks of the logs, and at one time, on a Sunday morning, when the father of the present owner called to us in the upper chamber, "to get up to breakfast," I awoke with six inches of snow all over the bed and over the floor. Primitive times those were ! Winters were different from now. The snow covered the fences with a crust strong enough to bear the sled on which the farmer's sons would draw me to the school-house.

The object of this communication is to show that Education has improved and advanced with the improvements of other branches of industry—arts, manufactures, commerce, or whatever has added to the wealth and grandeur of the country. The teachers of those days were generally old men, too old to labor, but considered able to teach school. Very little was required of a teacher. He passed through no examination other than a few ordinary questions proposed by some trustee. Spelling, reading, writing, arithmetic, were generally all that was requisite, and, indeed, few persons of an enterprising mind would teach school ; only the old, the lame, and the lazy. In early life, the light broke in upon my mind that my destiny was to teach. I began to qualify myself for the arduous duties of the profession ; but to whom could I apply for instruction ? All with whom I had an acquaintance knew no more than I did. How I succeeded (without assistance) and what was my method of teaching, I hope to give in a future communication.

TEACHER.

## EDUCATIONAL INTELLIGENCE.

## EASTERN STATES.

**VERMONT.**—The State Agricultural College having been united with the State University, provision will be made for receiving young men, who are desirous of pursuing the course of studies contemplated by the late act of Congress.

—The thirty-seventh annual meeting of the American Institute of Instruction commenced at Burlington on August 7th. During the first day a number of addresses were delivered on various topics of minor importance, and in the evening Mr. M. T. Brown delivered a lecture on "Reading as a Fine Art." An interesting discussion upon "The Place of Classic and Scientific Studies in a Liberal Education" was held on the second day. Object teaching was also brought forward, and a practical illustration given by Miss Seaver with a juvenile class of twenty. Mr. Calkins, of New York city, explained and defended the system. Education and Reconstruction came in for a share of consideration, and the condition of the Freedmen was discussed. No important business was transacted, and the Institute adjourned on August 10th.

**NEW HAMPSHIRE.**—The following gentlemen have been appointed trustees of the Agricultural College by Dartmouth College: President A. D. Smith, Gov. F. Smyth, Hon. J. A. Eastman, and ex-Gov. A. Colby. The five trustees to be appointed by the State have not yet been designated.

—The ground for the gymnasium at Dartmouth was broken on July 22d. George H. Bissell, of New York, gives \$24,000 for its erection. The subscriptions toward the Alumni Hall amount to \$8,000.

**MASSACHUSETTS.**—Amherst College has been quite fortunate. The gifts of Dr. Walker reach \$175,000, and other benefactors swell the aggregate to a much larger sum. Several new buildings are contemplated. The salaries of the professors have been increased. The new freshman class will number about eighty, and will be the largest that has ever entered the college.

—The total available funds for the Harvard College Memorial Hall now amount to \$228,000. \$27,000 more are required.

—At a meeting of the Alumni of Wesleyan University it was stated that the offer of Mr. Isaac Rich of Boston, to give \$25,000 to erect a library building, provided other friends of the University would give as much more, had been accepted, C. C. North, Esq., of New York, having advanced \$8,000; \$5,000 of it being an absolute gift, and the remainder a pledge that he would stand in the gap to that amount

if the friends generally proved a little slow in meeting Mr. Rich's challenge.

**CONNECTICUT.**—Hartford is about to enjoy a free library. The late Daniel Watkinson bequeathed \$100,000 as a fund, the interest of which was to be applied to the purchase of books for this library. About 15,000 volumes having been procured, the library will soon be open to the public.

—Mrs. James B. Colgate, of Yonkers, N. Y., has offered \$25,000 to the Baptist Literary Institute at New London, on condition that \$75,000 be added to the amount by other friends of the institution.

**RHODE ISLAND.**—The Rhode Island Institute of Instruction, T. W. Bicknell, Esq., President, hold their session from the 10th October to the 18th, at Pawtucket; the programme of exercises to consist of addresses, lectures, discussions, practical teaching, and music. This will be the only session of the kind held this year, and its directors hope for an interesting series of meetings, and a large attendance.

—The City of Providence has raised the salaries of its teachers. The High-school teachers receive \$1,850 and \$1,800, and the grammar masters \$1,800 instead of \$1,600 and \$1,500, the former salaries. Assistants in grammar-schools, principals in intermediate schools and female teachers in the High-school, receive fifty dollars advance of year's salaries—an increase of twenty per cent. on the whole.

—Professor James B. Angell, formerly Professor of Modern Languages in Brown University, and recently editor of the Providence Journal, was inaugurated, in August, President of Vermont University.

## MIDDLE STATES.

**NEW YORK.**—The Alumni of Hamilton College are endeavoring to raise \$25,000 for a library hall. Silas D. Childs, of Utica, lately deceased, left by his will \$25,000 to found a Professorship of Agricultural Chemistry and \$5,000 to purchase necessary books and apparatus for the same.

—\$85,000 have lately been given to Genesee College.

—The \$100,000 subscription for Rochester University has been completed by a gift of \$25,000 by Mr. T. H. Harris of New York.

The Alumni of the University of the City of New York have succeeded in accumulating a considerable amount towards founding an alumni professorship. The full amount, \$40,000, will probably be secured within three years.

—The State Teachers' Association met



at Geneva on July 31st. The following resolutions were adopted:

*Resolved*, That it is the duty of the State to provide for the free education of all the children within her borders, by the establishment of a system of free-schools, from the primary school to the university.

*Resolved*, That a judicious law should be enacted and enforced for the prevention of truancy and irregularity of attendance upon the school.

*Resolved*, That this Association recommend the formation of Academic departments in the Public Schools of this State, in all cases where the number and advancement of the pupils shall render it practicable.

*Resolved*, That the number of school hours for the younger children in our schools should be lessened, and that we recommend frequent recesses, and the most ample provision for healthful recreation.

*Resolved*, That we commend the acts of the Legislature, at its last session, in relation to Normal Schools, and heartily approve of all the provisions of law adopted by it for the formation and support of such schools; and, further, that we urge upon the Board of Commissioners appointed for the location of such school the importance of acting decisively upon the subject at as early a day as shall be practicable.

*Resolved*, That this Association commends the action of the Legislature in making appropriation for the support of teachers' institutes, and that in our judgment the appropriations for such purpose should in the future be very largely increased.

*Resolved*, That the salaries of school commissioners should be largely increased, and that the entire time of these officers should be devoted to the specific duties of their office.

*Resolved*, That the practice of paying our teachers, especially our female teachers, so meagerly, is due in a great degree to the usurpation of the post of instruction by so many young persons of insufficient qualifications, who underbid those of culture and experience, and that we urge upon examining officers the erection of a higher standard in the examinations, and a more rigid enforcement of its demands.

*Resolved*, That we approve of the establishment of a National Bureau of Education, and that a committee of three be appointed to prepare a suitable memorial addressed to the Senators and Representatives of this State, in the national Congress, urging their support of the measure.

*Resolved*, That we recommend teachers to use their influence to promote conventions of school officers and parents, on behalf of public instruction.

*Resolved*, That while we would encourage Special Education for the purpose of more fully preparing our youth for usefulness in the various fields of active duty, we

do nevertheless most sincerely and decidedly deprecate the growing tendency of the times toward Special education, to the neglect of the regular and systematic training in all the branches of a liberal education.

—Some changes were made in the editorial corps of the *New York Teacher*. It was also resolved to urge the formation of auxiliary associations throughout the State. Miss Seaver gave an exhibition of object teaching with her ubiquitous class. Some important papers were read, and the discussions were usually animated and interesting. The Association adjourned on August 2d, to meet at Auburn in the 3d week of July, 1867.

About the same time, the Association of School Superintendents met at Geneva. The question of "rate-bills" was thoroughly discussed, and the following resolutions were adopted:

*Resolved*, That rate-bills should be abolished.

*Resolved*, That the State tax for the support of schools should at once be increased to at least 1 1/4 mills on each dollar of the valuation of taxable property in the State, as equalized by the State Assessors, and that in each district where the public money should prove insufficient for the payment of teachers' wages, the balance should be raised by tax levied on the property of the district.

*It was also ordered*, That the teachers should report to the Commissioners at the end of the first month of their engagements, and at the end of every term: with regard to the matter of the reports, that the subject be returned to the Committee, with instructions to prepare a plan for blank forms for reports, to be submitted to the State Superintendent, and report in full at the next annual meeting.

—This year the University Convocation held its meeting at Albany, beginning on August 7th, and continuing in session for three days. Its deliberations afford a marked contrast to those of the other educational associations held this year. In the College section, composed of officers of colleges throughout the State, Chancellor Ferris, of the University of New York City, offered a resolution that in the coming examinations for admission, plane geometry and additional classical attainments should be required. This was adopted. It was also determined that no student should be received *ad eundem*, but examinations are necessary in all cases. It was also resolved to revise the present college curriculum, and the following were adopted:

*Resolved*, That Mr. Pratt be requested to prepare for the next convocation an analogous presentation of the corresponding College Curriculum.

*Resolved*, That these tables shall show how many hours in the entire four years' course are given to the following classes of studies:

Pure Mathematics, Applied Mathematics, (embracing all physics mathematically treated), Natural Sciences (Chemistry, Geology, Botany, and Natural History); Latin and Greek, Modern Languages, History, Rhetoric and Belles Lettres, Mental Science, Moral Science, and Religion.

During joint session a committee of three were appointed to report at the next meeting "On the true theory of Normal Schools and their practical relation to both the Common Schools and the Academies." The metrical system was discussed, and the Government rebuked for its hesitant action. A number of interesting papers were presented, and an able lecture upon teaching geography was delivered by Prof. Guyot.

PENNSYLVANIA.—The entire endowment of Alleghany College, Meadville, Pa., amounts to \$140,000 after deducting some losses by the Culver failure. Toward the Alumni Professorship some \$15,000 have already been subscribed, but at least \$15,000 more will be required for the same.

—The State Teachers' Association met at Gettysburgh on July 31st. The main matters of discussion were whether Pennsylvania could fill twelve Normal Schools; should the sexes be separated in schools; and the proper method of teaching grammar. No decision was arrived at respecting any of these. The best action of the session was a subscription for five shares of the Gettysburgh Memorial Association stock.

#### WESTERN STATES.

OHIO.—Jay Cooke has contributed \$25,000 for the endowment of an additional theological professorship at Kenyon College, and has nominated the Rev. Dr. Bronson, rector of the Episcopal church in Sandusky, Ohio, to fill the chair.

COLORADO.—Bishop Randall has secured a lot consisting of five acres of eligible and

beautiful land, situated within the limits of the city of Denver, upon which to erect a building for educational and religious purposes.

INDIANA.—The National Teachers' Convention began its sessions at Indianapolis on August 15th, and adjourned on the 17th. The attendance was full, and the papers read appear to have been valuable, and of deep interest. We have not yet obtained a complete report.

#### SOUTHERN STATES.

MARYLAND.—The Baltimore Association for the moral and educational improvement of the colored people has succeeded in establishing eight schools, with a daily attendance of not less than 2,500 pupils.

NORTH CAROLINA.—Agricultural College Scrip, to the amount of 270,000 acres, has been issued to the State of North Carolina. This is the first scrip that has been received by a Southern State, that of Virginia being now in preparation.

VIRGINIA.—Mr. C. H. McCormack, of Chicago, has given to the Union Theological Seminary at Hampden Sydney, Prince Edward county, Virginia, \$50,000, the endowment of a professorship. Mr. McCormack has also added \$5,000 to his contribution of ten thousand for the endowment of a professorship in Washington College, Lexington, Va., of which Gen. Lee is President.

MISSISSIPPI.—Oakland College has a permanent fund of about \$100,000, the most of which, it is hoped, will be safe. By the first of January, 1867, a considerable income will be derived from this fund. Oakland has also permanent improvements, buildings, etc., which could not be erected for any thing like \$100,000 at the present rates of building.

#### CURRENT PUBLICATIONS.

OUR attention has lately been called to Welch's Analysis.<sup>1</sup> We can only speak of some of its peculiarities—our space will not permit us to treat the book exhaustively.

The author says in the preface: "We have changed the old nomenclature wherever it was inadequate or meaningless; yet no in-

novations have been made without the most serious and urgent reasons." Again: "In completing our task, we have been influenced neither by a love of novelty on the one hand, nor on the other by a foolish attachment to time-honored errors." Again: "The entire system has been thoroughly tested by teaching it to advanced classes in the State Normal School."

The object of all grammatical analysis is to teach the scholar to write, speak, and understand his language, whatever it may

(1) ANALYSIS OF THE ENGLISH SENTENCE, DESIGNED FOR ADVANCED CLASSES. By A. S. WELCH, A.M., Principal of Michigan State Normal School. New York: A. S. Barnes & Co.

be. The principles of analysis are for the most part universal in their application; at least, we have been taught thus to believe. We may be in error regarding the true office of analysis; if so, we shall be most happy to be corrected.

Who this Mr. Welch is, whose office it is to change the nomenclature of grammar only for the most urgent reasons, we have not the honor of knowing. How this system has been thoroughly tested by classes in the Normal School of Michigan, we can hardly understand. We had supposed that, as a rule, scholars in State Normal Schools did not possess the qualifications requisite to a thorough test of the English language and its grammatical analysis; but in this as in other respects, we are ready to be corrected.

Unhappily for the cause of Education, we have in this country more authors than students; we are truly a nation of inventors; every American feels it his bounden duty to express himself in season and out of season, thinking that his peculiar views are full as important to the nation at large as to himself.

The old maxim, "make haste slowly," is little appreciated, and rather than not say any thing we are willing to contradict assertions each succeeding day of existence.

Of the sentence "I know who troubles you," Mr. Welch says: "*Who* is an interrogative pronoun." Why interrogative? In all languages, without a single exception, and by all grammarians of any note, this word *who*, in this sentence, is called a *relative*. It remains for Mr. Welch to discover its interrogative character.

We protest against this manner of disposing of *time-honored* and universal definitions. The answer to this probably is: This is in accordance with his definition. Because one chooses, contrary to a universal notion, to assert that the right angle has more than ninety degrees, and then proves, that the sum of the angles in a plane triangle is less than two right angles, shall triangulation be performed according to his dictum?

Of *Mode* the author says: "The English verb cannot be said to have mode. The so-called potential mode is a collection of words completely analyzable. It is composed of a principal verb (*may, can, or must*) and an infinitive limiting this verb."

This idea has not the merit of novelty;

one hundred years ago, it was referred to by different authors—only they failed to see that *mode* was thus done away with. The same remark might with equal fitness be made of the Aorist middle, *ἔβουλεν-σθην*, or the pluperfect, *ἔβουλετο-μεν*, of the Aorist, *ἔβουλε-σα*, and of the other parts of the Greek verb. Equally well might it be said of the pluperfect of the Latin verb *amo, amav-eram*, which is made up of the imperfect of the verb *sum* and the verb; it equally applies to the French future *parler-ai*, formed from present-indicative and the infinitive, or to the conditional *parler-ais* formed from the present-subjunctive and the infinitive. The Italian futuro-imperfetto *cred-eramo*, the conditional *cred-erebbero*, etc.; the Spanish *asinti-éramos*, the present-indicative, first pluperfect *acord-amos*, etc., are subject to the same remark. The German verb which has a perfect analogy to the English, and whose genesis is the same in its formation, comes especially under this observation. Yet fair scholars, Grimm, Döderlein, Schlegel, Bopp, and others have never made this wonderful discovery. The Sanscrit is liable to the same objection—the verb is made up of the verb *to be, to create*, and the infinitive—the verb *to be* formed from a root and certain pronominal elements which are readily explained.

We cannot see what difference it makes whether the verbs *to be* and *to have* are placed before or after the infinitive. The fault rests in the definition. Mode is not a change in the form or termination of a verb to indicate the manner in which it expresses something of its subject. That the English verb has five modes or ways in which an action or circumstance may be stated, will continue to be taught, Mr. Welch to the contrary.

Speaking of the change in termination the author says: "The English verb in its modern use affords but one example of such change. The 'Analysis' was written to be used in connection with Clark's New Grammar, which sufficiently accounts for this observation. We have yet to learn that the pronoun *thou* is obsolete, and we think little of the reading of one who has come to such a conclusion. Is not the author aware that the change in termination is not made to agree with a subject going before, but that this change is the pronominal element annexed to the verb to denote its person and number, in the same way as in

Sanskrit, Greek, Latin, etc? Mr. Welch says of tenses: "The present, perfect, and past-perfect are substitutes, but are not analyzable, and consequently must be retained as tenses. But the futures may both be analyzed and taken out of the conjugation, although it does not, at present, seem expedient to do so." We thus have the promise of good things to come, when there shall be no such thing as tense, and perhaps even time itself shall be no more. The weary schoolboy is encouraged. The grammarians may yet do something for humanity, if not for the humanities.

On page 97, we find this pleasing observation. "The English verb has no passive voice. In place of such a voice we have a neuter sentence, which can be completely analyzed." Why always this limit to the English verb? As we have before stated, Sanskrit, Greek, German, the Scandinavian family of languages, Latin, and, as a sequence, the Romance languages have the same peculiarities—the only difference in some of them consisting in the position of the auxiliary verb and the subject. The remark, that the passive voice may be analyzed, is made in dozens of German grammars, and this voice is always analyzed by the German scholar, but he does not for this reason assert the non-existence of the passive.

The classification of the irregular verbs according to their similarity of form in the past tense and perfect participle, is evidently presented not only as a novelty, but as a great improvement. Ahn's small German Grammar has the same thing; though this is no reason why Mr. Welch should not adopt it, and it has decided merit.

There are many things in this work that are admirable and well stated; the author has displayed considerable ingenuity and nice thought in the way of disposing of many difficult phrases and sentences that have been a source of vexation to the scholar. The arrangement of the topics is good, the gradual development of the subject is well done, and his treatment of the infinitive and present participle, the most difficult subjects in the language, merits the attention of all teachers; while his theory of *complement* is presented in a masterly manner. The author's remarks, page 47 and 48, on the office of the relative as a connective are not in our opinion correct, and the subject is presented in a more logical manner by Kiddle in his analysis, page

66, Brown's grammar, and in other parts of the work. With respect to the author's treatment of the words *then*, *but*, and other words of like character, there will always be a difference of opinion, but his teaching agrees with that of Mr. Clark, whose grammar this "Analysis" is designed to follow.

We do not think the "Course of Time" the best poem to offer for analysis; but this is a matter of taste, about which there may be no dispute. The pronouns, the formative element in all languages, are well classified, and their offices clearly stated. But the faults to which we have referred will always work against the adoption of this work as a text-book in our best schools.

It is generally considered that it is inappropriate to commence the daily exercises of a school without prayer. Whether the teacher is a professor of religion, or not, there is a respect for the act of worship, which, even under the most untoward circumstances should not be disregarded. It does not follow that, because one is a good teacher, he is in consequence gifted in public prayer. The awkwardness of the inexperienced, has often produced a confusion in the devotional exercises, which is, to say the least, highly undesirable. He who fails at extempore prayer, naturally turns to a Liturgy for assistance, obtaining a partial relief in the use of that which has to be repeated each day; and often stumbles into more grievous embarrassment on finding that, in selecting the Liturgy of one denomination, he has done violence to the feelings of some of his pupils, or their parents, who consider some other denomination the truly orthodox one.

Now, suppose such a teacher to be supplied with *Worship in the School-room*.<sup>2</sup> At once his difficulties are at an end. In this he has all the verbal helps to prayer that he can reasonably ask for. Not one form of prayer, to be repeated every day, falling on children's ears as a stale formality, but a fresh prayer every day, ready for almost every variety of returning need, and expressed in language so simple, pointed, and comprehensive, that children can unite with their teacher in thus laying their wants before the Great Father of all. But the prayer is not the only act of worship

<sup>2</sup> LESSONS AND PRAYERS FOR THE SCHOOL-ROOM, THE FAMILY, AND THE SOCIAL CIRCLE. BY W. S. WYLLIE. New York: J. W. Schenckhorn & Co.

provided. Accompanying it, and intimately linked with it in idea and expression, are the pleasing and instructive exercises of singing and of reading the Word of God. The lesson of each day is on some particular topic; the hymns, the passages of Scripture, and the prayer, all being so selected and constructed as to bear upon each other, to throw light upon each other, and to impress those who engage in the worship with the thought that true worship is not a mere random utterance of devout thought, but a reverent, systematic, and intelligent approach to God.

In the family, too, daily prayer, if not as universal a custom as it ought to be, is yet one that commands respect, and is, to a very great extent, followed. A book which furnishes such aid as the present publication cannot but promote the general observance of the good custom. In many families, inexperience, or inability to pray "out aloud," has been the excuse for a neglect of household prayer. With this book in his hand, the most inexperienced *pater familias* can lead the devotions of his house to the edification of all who are present; and all who can read and sing can do their part in making the habitation vocal with the sound of praise. Family prayer, where the family all sing, is immeasurably better than where there is no singing. With the musical notes printed with the words, as they are here, there are few families in these days of pianos and cabinet organs, which should be mute at time of prayer.

A very noteworthy feature of the book, is, the character of its prayers, of which there are some two hundred and fifty, each by a different author. Most of the writers are ministers; the rest are lawyers, teachers, merchants, statesmen, military men, and, in fact, representatives of almost every profession. Whatever may be in the future for us in the way of organic union of the different sects of Christianity, the most ardent promoters of the scheme cannot see that such union actually exists now. But in these prayers we see something more valuable than the mere external form of union. The writers prepared them without consultation with each other as to what expressions should be used, or what petitions should be indited; and from each one, of whatever persuasion, goes up to the same Father of all the outpouring of his chil-

dren's wants, in such terms as to show that, by what name soever we may be called, we are one when we bow before the mercysent. Such a collection of prayers, prepared under such circumstances, and with such result, would of itself make the book a truly valuable one.

But it is not only the inexperienced teacher, or the blundering, timid utterer of household prayer, who needs the help which the book affords. The most learned, the most gifted in prayer, will find it an advantageous, as well as an agreeable companion.

Had Louis Napoleon's work on Julius Cæsar been written by any ordinary individual it would have received barely a passing notice. As a literary work it is inartistic, as a history it is a mass of warped and distorted statements. The author aims to give the life of Cæsar, not as he was, the destroyer of Roman liberty, but of a hypothetical Cæsar, the creator of Roman glory, the greatest of ancient benefactors of the human race, the precursor and foreshadower of Napoleon I. Such being his purpose, the royal historian can hardly be impartial.

The second volume of the history,<sup>2</sup> comprising books III. and IV., narrates the Gallic Wars and the contemporary events at Rome, covering a space of eight years. The opening chapter is nominally a discussion of the political causes of the war, but really a defense of Cæsar against the charge that in his Gallic and German campaigns he aimed at supreme power. Had that been his object, he was foolish, says the author, to continue the Gallic wars for eight years, or to undertake the doubtful expeditions into Britain and Germany, when after his early victories he might justly have returned to Rome and claimed a triumph. He went not to obtain supreme power, but only to secure that honorable glory resulting from successful wars in behalf of one's country. The second chapter is a description of Gaul, and, though well adulterated with Napoleonic ideas, contains much valuable geographical information, as the author has bestowed much labor upon the identification of ancient with modern localities.

The remainder of Book III. is an account

(2) HISTORY OF JULIUS CÆSAR. VOL. II. THE WARS IN GAUL. New York: Harper & Brothers. 8vo, pp. 600. \$4.00.

of Cæsar's campaigns, following with great exactness the order of the "Commentaries," of which it is in great measure only a paraphrase. The historian has employed engineers to examine the scene of Cæsar's operations, and by proving the accuracy of that general's statements has rendered good service to ancient history. Book IV. is a recapitulation of Book III., and a relation of events occurring at Rome from A. U. C. 696 to 705. It is due to Cæsar to state that he tells his own story better in Book III. than Napoleon tells it for him in Book IV. The omission of this recapitulation would have added to the symmetry of the work, by rendering the relation of events at Rome a connected narrative instead of the wretched patchwork that it now is. The volume ends with the crossing of the Rubicon and a defense of this step. Claiming that he who renders war necessary, not he who declares it, is the author of war, Napoleon casts the odium of the civil war upon Pompey and the aristocratic party. Cæsar was no destroyer, he was the supporter of the common wealth, for his death threw the whole into confusion.

Throughout the work the author manifests a fondness for parallelisms between Cæsar and the Napoleons. At the close of Book III., chap. ii., he clinches an argument in behalf of centralization by a long quotation of his uncle's opinions. On page 191, he compares Cæsar's first descent upon Britain with his uncle's descent in 1804. He forgets to add that the attempts were thoroughly alike in results; in both cases the fleets returned without gaining any thing but loss and discomfort. On page 545 we learn that Cæsar and the author were alike unfortunate. Owing to a lack of friendship between the Senate and Cæsar, the former shortened the latter's term of command by nearly two years. Napoleon III. was in like manner, as he thinks, shabbily treated by the Constituent Assembly, as appears by the following note: "At all times the Assemblies have been seen striving to shorten the duration of the powers given by the people to a man whose sympathies were not with them. Here is an example. The Constitution of 1848 decided that the President of the French Republic should be named for four years. The Prince Louis Napoleon was elected on the 10th of December, 1848, and proclaimed on the 20th of the same month. His powers

ought to have ended on the 20th day of December, 1852. Now, the Constituent Assembly, which foresaw the election of Prince Louis Napoleon, fixed the termination of the Presidency to the second Sunday of the month of May, 1852, thus robbing him of seven months." He might have added that both he and Cæsar took ample satisfaction by treacherously overthrowing the Republic to which they owed their elevation.

The translator deserves great credit for his success in distorting our language. Napoleon may have used good French, but the translator has used execrable English. From his improper use of prepositions and his mismanagement of tenses, we think that English is not his native tongue.

The child being "father to the man," and susceptible to the same influences, the teacher who wishes to succeed in the government of his school must bring to bear upon his pupils influences similar in kind to those which have proved efficient in the government of men. Hence the efficacy of reports and records, and the various other means which every teacher "skilled to rule" knows how to use in creating and sustaining an *esprit de corps* in school. We have seen nothing better adapted to accomplish this end, especially among young children, than "Aids to School Discipline." They must be very efficient both in the discipline of schools and in the promotion of a scholarly pride and emulation. And another and not less important end is gained by them. Nothing serves more to advance the interests of a school than the creation of an active parental interest in whatever pertains thereto. This interest may be secured either by bringing the parents frequently to the school to note its condition and progress—a very hard thing to do, as every teacher can testify—or by bringing the school daily home to the parents. This is done by the Aids, and in a manner that cannot fail to arouse attention and interest.

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DEVOTED TO POPULAR INSTRUCTION AND LITERATURE.

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This is a first-class Journal, useful to all who are directly or remotely interested in Education.

Among the original papers in the September number, are, "Liberal Education," by Mr. Spalding, "Isometric Drawing," by Prof. Plympton; "Professor Alphonso Wood in California;" "Chemical and Physical Manipulation," by Mr. Phil; "The Fugitive," a Dialogue, by Miss Barbour; "Henry Hudson," by J. J. Stevenson. Editorials on "Keys to Success in Modern Scholastic Enterprises;" "Perverted Education;" "Journalistic Honesty." Letters from William L. Gage, now in Germany, and Dr. Hooker, of Yale College. Items of what is new in "Science and the Arts." "Educational Intelligence" from all quarters of the United States, as well as from England, Ireland, France, Russia, Greece, India, Sandwich Islands, and Hayti. Several candid reviews of Books. Choice selections are interspersed throughout the Magazine.

It contains elaborate accounts of new School-Books, Maps, Charts, &c., &c., with a complete price list of all the articles usually required for school use. Also a classified list of Teachers who are seeking positions. "No Educator can afford to be without it," and "all will be pleased with it."

Terms, per annum, \$1 50. ~~25~~ Specimens mailed prepaid for TWELVE CENTS (four red stamps).

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## "American School Institute," Founded 1855,

IS A RELIABLE EDUCATIONAL BUREAU:

(1.) To aid all who seek well-qualified Teachers. Principals, School Officers and Heads of Families should send full particulars of what Teachers they want, and ask for the "Teachers' Bulletin."

(2.) To represent Educated Teachers who desire positions. The demand for experienced Teachers is good, especially for those who teach Classics, Military Tactics, and Music. Professors of Music and superior Female Music Teachers are always in demand. All Teachers should have the "Application Form."

(3.) To give parents information of good Schools. Facts concerning Schools are properly classified and are promptly submitted to those who seek Schools for their children and wards.

The *reliability* of the "American School Institute" is amply vouched for by well-known Educators and business men in all sections of the country. This testimony will be sent when desired.

J. W. SCHERMERHORN, A. M., Actuary, 430 Broome St., N. Y.

Branch Offices in Philadelphia, Chicago and Savannah.

# SHERWOOD'S NEW PATENT INK WELLS FOR SCHOOLS.

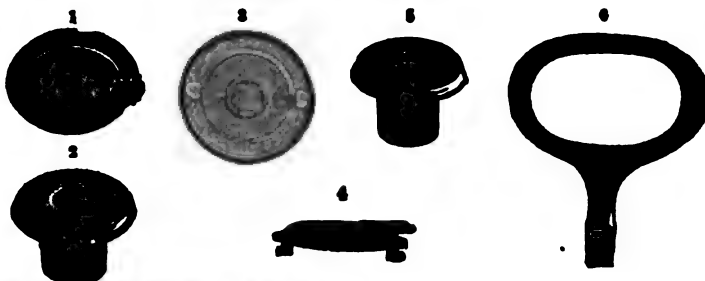


Fig. 1 represents top view of cover; 2, top view of well without cover; 3, bottom of cover; 4, edge of cover; 5, well complete; 6, key to cover. The Ink Well (5) is inserted into desk through hole bored for the purpose, so that the flange rests on surface of desk, and is secured in place by screws in countersunk holes. Flange of well has on its outer edge a lip, which always rests on desk, leaving space within below interior part of flange. This space allows room in which pins projecting downward from lower side of cover may freely move. Pins have heads (as seen in 4), and are first inserted through apertures large enough to admit them freely in flange of well (as in 2). From these apertures extend, concentrically in opposite directions, curved slots, just wide enough to allow necks of pins to pass freely. Lower edges of these slots have slight inclination downward from apertures, so that as cover is turned the heads of pins become wedged against inclined surfaces, and draw cover closely upon well, on which it fits tightly. Cover is fastened by key (Fig. 6).

This new well is simple, and while it contains the combined excellences of the best wells now in use, it remedies the defects of all. 1st. We have a neat and secure fastening for the cover, which can only be removed with the key, which should be kept by the teacher or janitor.

2d. The well itself, after being fastened by two common screws, never need be removed; the glass lining only being removed for cleaning, which can be done by unscrewing the cap with the key.

3d. It will not get out of order,—by its simplicity of arrangement there is no lining to corrode. It cannot burst and spill the ink, and cannot be removed and lost by the pupils.

4th. It can be used in the holes made for other wells. 5th. It is economical.

**Price of Ink Wells per dozen, \$2.50; Keys for same, no charge.**

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They manufacture and sell **Heavy Plain Glass Fonts or Ink Wells**, per dozen, \$1.20; **Japanned Covers** for same, \$1.20; **Brass Covers**, very neat and elegant, \$1.25.

## HALL'S GREAT GEOLOGICAL CHART,

Size 6ft. 6in. by 5ft., finely engraved and superbly colored,

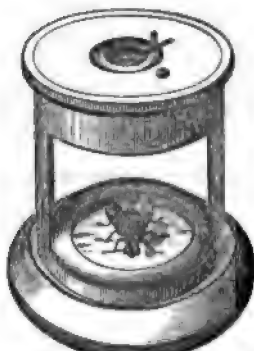
Exhibits the order in which the successive strata of rocks are arranged, and the characteristic fossils which have mainly afforded the key to this arrangement. It gives the appearance that would be presented if a section were made from the surface towards the centre of the earth, exposing the edges of the different layers. It is, in fact, such representation as may be seen in the banks of many rivers, as the Niagara, or in the high rocky cliffs of the lake or ocean shores, only it is much more extended.

This beautiful chart was prepared by Professor Hall, that it might render a study so delightful in itself, and so practically useful, more extensively introduced, and more easily understood.

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For the examination of **LIVING INSECTS** this is far superior to any other glass, as it confines them within the focus during the examination,—feet up or down, as you please. It is also suitable for examining flowers, leaves, seed, cloth, wool, minerals, the skin, &c., being adapted to a greater variety of purposes than any other glass ever invented.

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## A New Thing for the Blackboard.

It perfectly erases the marks from any kind of blackboard without filling the air with particles of chalk, and without covering the dress and furniture with dust.

It is made of Chamois Skin, arranged to bring a series of edges in close contact with the surface of the board.

The skin is thoroughly fastened in a thin block. The Chamois Rubber must prove very durable. It is easily cleansed by a brisk rubbing of two of them together.

Prices.—Chamois Rubber, each 50 cents; per doz., \$5.00.

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## A GEM FOR THE SCHOOL-ROOM.

"THE LITTLE CHAMOIS RUBBER," for thoroughly cleansing the Slate without water, is really a Gem for the School-room. This simple and ingenious invention is made upon the same principle as the Chamois Rubber for the Blackboard. Its size is  $1\frac{1}{2}$  inch by 1 inch. It entirely dispenses with the sponge and water in erasing marks from the slate. No longer need the teacher be annoyed by the oft-repeated question, "Please, sir, may I go and wash my slate?" Nor need the child spit upon the slate to erase his marks. This pretty and useful little article needs only to be seen to be appreciated. Every teacher will recommend it because of its real convenience and neatness; and every one who goes to school will buy it.

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## SLATED LEAVES.

"ECONOMY IS WEALTH."

The inventor of the Eureka Liquid Slating has made a very convenient little thing, called a

### SLATED LEAF.

It is about 7 inches long by  $4\frac{1}{2}$  wide, is made upon thin pasteboard, and is **JUST THE THING** for pupils to place in a book and use instead of writing upon paper, or upon a slate. The surface is perfectly smooth like the best slates, and all marks are easily erased. They have already been largely used in some of our best schools. A prominent teacher says that "each pupil will save, by using this *Slated Leaf*, 5 to 10 cents worth of paper per month."

Even a little child can hold this, with a book, without fatigue. It can be conveniently used for taking home memoranda, written examples, &c., by being placed between the leaves of a book. It is neat, economical, and convenient.

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Specimen sent by mail, prepaid, for .....5 cts.

One dozen by mail .....40 cts.

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|                                                                                                                                  |                            |            |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| A B C Boxes.....                                                                                                                 | Various styles and prices. |            |
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| Aids to School Discipline. 600 Certificates, Checks, Cards, and Merits.....                                                      |                            | 1 25       |
| Alphabet Blocks, Hill's.....                                                                                                     | set 25 to                  |            |
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| Perfect Slate Surfaces, one side.....sq. ft.                                                                                     |                            | 50         |
| Slate Surfaces both sides.....                                                                                                   |                            | 60         |
| do. black walnut frames.....                                                                                                     |                            | 70         |
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| Croquet, "Out-door"—                                                                                                             |                            |            |
| 1. Boxwood, best finish, complete, 8 mallets, 8 balls, in walnut box, starting and returnposts, 10 arches, clips, and rules..... |                            | 38 00      |
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| One dozen Magnetic Objects, representing men of different races, ships, light-houses, animals, &c., accompany each Mag. Globe.   |                            |            |
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| Ink—all kinds.....                                                                                                               | Quarts, per doz.           | 6 00       |
| Ink-stands, for teachers' desks, in great variety.                                                                               |                            |            |

|                                                                                        |                      |        |
|----------------------------------------------------------------------------------------|----------------------|--------|
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| slated.....                                                                            |                      | 1 50   |
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| with 24 mounted objects.....                                                           |                      | 5 50   |
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| do. with 12 mounted objects.....                                                       |                      | 3 50   |
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| Multiplication Wall Cards, 20 x 25 inches.....                                         |                      | 75     |
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| "Object Teaching" Blocks.....                                                          | box                  | 3 25   |
| Pencils—Drawing, various kinds.                                                        |                      |        |
| Slate, common.....                                                                     | 100                  | 25     |
| do. soap-stone.....                                                                    |                      | 30     |
| do. composition.....                                                                   |                      | 50     |
| do. noiseless, holder & box of points.....                                             | doz.                 | 1 25   |
| Pencil-Sharpeners, McMillen's—                                                         |                      |        |
| For lead pencils.....                                                                  | each                 | 75     |
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| Extra fine.....                                                                        |                      | 1 50   |
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| Plaster Models for Drawing.....                                                        | .75 to               | 30 00  |
| Pointers, for Maps and Black-Boards.....                                               | .25 to               | 60     |
| Reading Stands—                                                                        |                      |        |
| 1, with No Pins Ultra Book-Rack.....                                                   | \$5 00 to            | 7 00   |
| 2, with Double Book-Rack.....                                                          | 6 00 to              | 9 00   |
| 3, Writing-Desk & Book-Rack.....                                                       | 8 00 to              | 12 00  |
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| Wood, plain, different lengths.....                                                    | .60 to               | 2 00   |
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| Sheet Music—at publishers' prices.                                                     |                      |        |
| Slates—Adamantine, cannot be broken; "three-ply" with "Eureka" slate surface—          |                      |        |
| Size, 5 x 7.....                                                                       | dozen                | 1 75   |
| 6 x 9.....                                                                             |                      | 2 25   |
| 7 x 11.....                                                                            |                      | 2 50   |
| 8 x 12.....                                                                            |                      | 3 25   |
| 9 x 18.....                                                                            |                      | 5 25   |
| Card Board, "Eureka" Slate Surface—                                                    |                      |        |
| Size, 4 x 6.....                                                                       | dozen                | 50     |
| 5 x 7.....                                                                             |                      | 75     |
| 6 x 9.....                                                                             |                      | 1 00   |
| 7 x 10.....                                                                            |                      | 1 25   |
| 8 x 12.....                                                                            |                      | 1 50   |
| Stone—Oval frames.....                                                                 | Per dozen, \$2 00 to | 8 25   |
| do. Square frames.....                                                                 | 1 40 to              | 4 50   |
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| Slatel Leaves, "convenient, economical".....                                           | 100                  | 2 00   |
| Slatel Card Board, for sundry uses.....                                                | Per sq. ft.          | 15     |
| Slate Rubbers, to erase without water.....                                             | 100                  | 3 00   |
| Slatel, Liquid, Munger's "Eureka," (makes perfect Slate Surface on board or wall)..... | quart                | 3 00   |
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| School Furniture of every variety.                                                     |                      |        |

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IS A RELIABLE EDUCATIONAL BUREAU:

1. To aid all who seek well-qualified Teachers;
2. To represent Teachers who desire positions;
3. To give parents information of good schools;
4. To sell, rent, and exchange school properties.

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M. J. YOUNG, Secretary. G. M. KENDALL, Treasurer.

More than ten years' trial has proved the “AMERICAN SCHOOL INSTITUTE” to be a useful and efficient auxiliary in the Educational Machinery of our country. Its patrons and friends are among the first educational and business men. Its central office (in New York) has been removed to larger quarters, where greater facilities will be afforded in extending its usefulness.

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Information of teachers will be furnished, which shall embrace—Opportunities for education; special qualification for teaching; experience, where, and in what grade of schools; references; age; religious preferences; salary expected; specimen of candidate's letter, and sometimes a photographic likeness. Unless otherwise advised, we nominate several candidates, and thus give opportunity for good selection.

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 752—Grad. Prof. Wood's Sch.; expr. 1 yr.; Eng., Maths., French & Guitar; Episcopalian; \$400.  
 753—Grad. Burlington H. Sch.; expr. 3 yrs.; Eng., Maths., Latin & Singing.  
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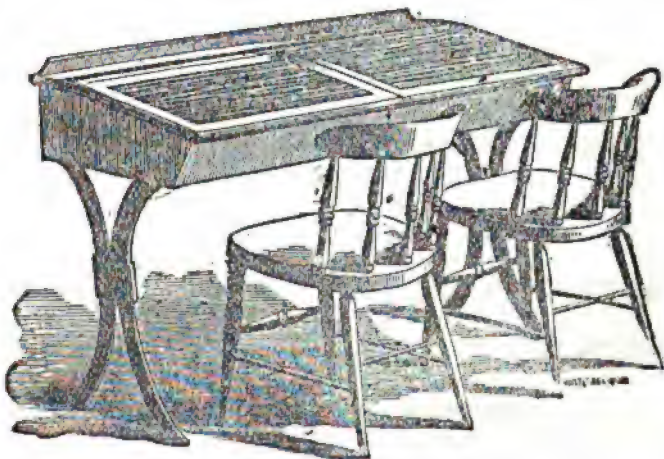
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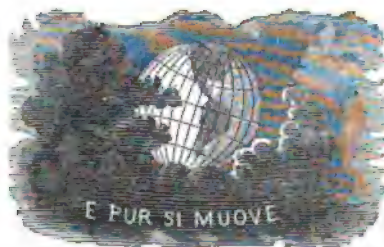


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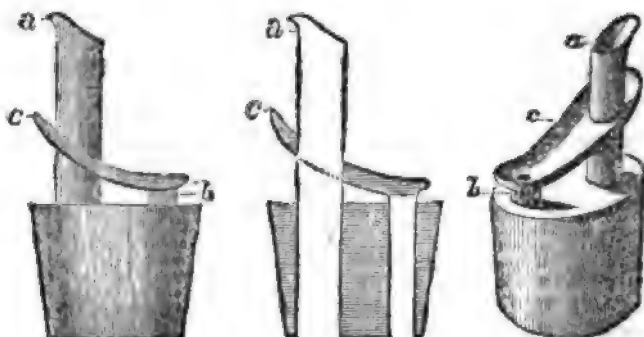
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## ATMOSPHERIC PHENOMENA.

### I.

LESS than two hundred years ago the atmosphere, like light, was regarded as a subtile fluid, pervading all nature, imponderable and possessing no characteristic of matter. No other gaseous body was believed to exist. Miners were continually harassed by so-called peculiar conditions of the air, some of which summarily choked them, and others, catching fire, blew their bodies to atoms. Knowing no natural causes for these phenomena, the learned and ignorant together referred them to infernal agency, and assumed the existence of spiritual guardians of the treasures. These demons were called *geists*, or ghosts, by the Germans, whence arose the term gas.

In 1757, Dr. Black observed that when vinegar was poured upon chalk there escaped an invisible air, which possessed all the fatal qualities of the choke-damp or suffocating gas of coal-mines. This observation indicated that there were different kinds of air; but it was not sufficient to overcome the popular prejudice, and only after Priestley's magnificent discoveries in pneumatic chemistry, made twenty years later, was a true distinction of gases asserted, and the composite nature of our atmosphere determined.

According to modern discoveries, the atmosphere is a gaseous envelope about the earth, forty-five or fifty miles in depth, and composed principally of two gases, nitrogen and oxygen, mingled in the proportion of four to one. Its density diminishes rapidly with the elevation, so that at a height of three and one-half miles fully one-half of its mass lies below. At this and higher points, the rarity of the air is such as to render breathing exceedingly difficult, and blood is frequently forced from the eyes, nose, and mouth. If at an elevation of four miles a bird be dropped from a balloon, it is unable to fly, and, after a momentary attempt to sustain itself, descends rapidly to a denser stratum.

### WINDS.

In the atmosphere, as in the ocean, we find marked currents, arising from the effects of heat. Air, like water, being heated by convection,

these movements result from radiation, and are, therefore, continuons, one portion ascending, the other descending. The descending current may be propagated in various directions, as Capt. Horsburgh\* has shown. "I have several times, in fair weather, seen a cloud generate and diffuse a breeze on the sea, which spread out in different directions from the place of descent. A remarkable instance of this occurred in Malacca Strait when a fleet was in company. A breeze commenced suddenly from a dense cloud, and its center of action seemed to be the middle of the fleet, which was much scattered. The breeze spread in every direction from a center, and produced a singular appearance in the fleet, for every ship hauled close to the wind when the breeze reached her, and when it became general, exhibited to view the different ships sailing completely in a circle, though all hauled close to the wind." The same author also states that frequently in *ty-fongs* the wind seems to come from every direction, and waves assume a pyramidal shape, which renders them particularly destructive to ships.

Most writers on meteorology classify winds, according to their mode of occurrence and the time of their duration, into constant, periodical, and variable currents. Of the

#### CONSTANT WINDS,

the Trades, which blow towards the equator from the northeast and southeast, are by far the most important. These prevail between the equator and tropics, and are bounded by regions of calms. Halley, in his *Theory of the Trade Winds*, refers their origin to the rarefaction of the air at the equator and to the diurnal revolution of the earth. The heated air ascends to the upper regions and passes north and south, while the cooler air from the poles rushes in to sustain the equilibrium. As the earth revolves upon its axis from west to east, the velocity with which any point on the surface moves depends upon its distance from the equator, decreasing towards the poles. The air over any given point moves with the same rapidity as the point itself. Therefore, when drawn to the equator, where the velocity is greater, it is deflected to the west, and appears to come from the east.

This theory seems to be the true one, though apparently opposed by fact. It assumes steady, continuous currents from the poles, whereas we have seen that the trades exist only between the tropics, where they evidently originate in narrow belts of calms, beyond which the prevailing winds tend to the poles. Lieut. Maury thus explains the seeming paradox † Leaving the north pole, a particle of air, for some reason not yet known, travels in the upper atmospheric regions until it reaches latitude 30°, where it meets a particle coming north from the equator to take its

\* Nicholson's *Journal*, vol. 15, p. 11.

† *Physical Geography of the Sea*, p. 76.

place. Each particle neutralizes the motion of the other, so as to produce a calm and an accumulation of the atmosphere. Under this bank of calms two surface currents pass out, the northeast trades and the southwest passage winds which prevail between the tropical and polar calms. Having crossed the calm, the northern particle keeps on to the equator, where it meets another particle from the south, and calms again result, forming a zone from four to eight degrees wide, known as the variables. Heated by the radiation at this point, the two particles ascend, cross each other, and, as the upper trades, proceed north and south to descend at the tropical calms, and continue thence as surface winds to the polar regions.

The elevation at which the upper trades originate is unknown. They have never been reached, even at the greatest height attained on the Andes. The upper currents move with great force. On the 24th and 25th of January, 1835, the sun was darkened at Jamaica by a shower of ashes which had been discharged from Coseguina, eight hundred miles distant. This eruption gave a beautiful illustration of the different winds, for at the same time ashes fell on a ship seven hundred miles south of the volcano,\* which is situated in or near the variables. The equatorial belt of calms is so absolutely devoid of strong winds that sailing vessels are frequently delayed in it for several weeks. The loss thus sustained was so great that the greater number of the large India vessels are now provided with auxiliary screws, which can be raised or lowered at pleasure.

#### PERIODICAL WINDS.

The trade-winds are constant only at a considerable distance from land, being altered in their course by the islands and continents over which they pass. By the deserts of Asia and Africa and the Oceanic Islands they are converted into periodical winds called monsoons, which prevail in the Indian Ocean and China Sea, as well as upon the southern coast of Central America and the west coast of Africa. Mrs. Somerville† thinks the monsoons owe their origin to diminished pressure of the atmosphere at each tropic alternately, whence necessarily results the southwest wind in summer and the northeast in winter. The southwest monsoon, though more violent than the other, is extremely beneficial to the parched regions of India; for in passing over the Indian Ocean it becomes charged with vapors, which are discharged in heavy rains and render the country cool and inhabitable.

The land and sea breezes belong to the periodical winds. They are studied to best advantage upon the ocean islands, and Lient. Jansen, of the Dutch navy, has given an interesting description and explanation of them. During the day the sun's rays falling upon the land rapidly increase its temperature, while that of the water has advanced but little. The air

\* *Heat as a Mode of Motion.* American edition, p. 185.

† *Physical Geography.* American edition, p. 281.

upon the land ascends, and that upon the sea is pressed in to take its place, thus producing the sea-breeze which prevails during the day. At night the reverse occurs. The land throws off its heat more quickly than the sea ; the current of air flows toward the sea, causing the land-breeze during the night. During the rainy season at Java and the neighboring islands the land-breeze is very irregular, as clouds prevent radiation. On the African coast, in the zone of equatorial calms, it never fails ; a very slight fall in temperature suffices to reverse the current, so that the land-breeze is frequently of stifling heat. In the temperate zones the alternation is regular, except in long-continued wet weather.

Over the deserts of Africa and Arabia there prevails a periodical wind, marked by its excessive warmth, and, among the Arabs, is called *Simoom*, or the poisonous. It lasts for forty days, wherefore the Egyptians call it *Khamsin*. The destructive power of this wind is almost incredible ; wherever it passes, plants dry up, evaporation from the skin of animals goes on with such rapidity as to cause extreme suffering, and even whole caravans have been known to perish when in its path. The nature of its poisonous qualities is undetermined. Some writers hold that it contains deleterious vapors or exhalations from the soil. This is unsatisfactory, as appears upon consideration of the country over which it passes ; unless, indeed, we accept the hypothesis that it is a visitor from South America. Dr. Silliman maintains that its heat is sufficient to produce the noxious effects. Heat alone cannot suffice, as the temperature of the wind rarely exceeds 100° F. Very frequently, Chaubert and Sir Francis Chantrey breathed with impunity air heated to 300° F. ; and in porcelain factories women go into the ovens to arrange the ware, the temperature being upwards of 400° F. Mrs. Somerville offers the supposition that its bad effects are caused chiefly by heated sand carried by the wind.

#### VARIABLE WINDS.

Of these, hurricanes or cyclones may be taken as the type. They are of interest not only because of their destructive power, but also because they are governed by fixed laws which have been carefully investigated.

Between these rotatory storms and the monsoons there is an unexplained connection. The hurricane season of all seas in the northern hemisphere nearly coincides with that during which monsoons prevail upon the North Indian Ocean, the China Sea, and the coast of Central America. It occurs upon the South Indian in the opposite season, where the north-west monsoon prevails in the East Indian Archipelago. In the seas of the southern hemisphere monsoons do not occur and cyclones are almost unknown.

The portion of atmosphere which forms the hurricane, revolves upon an axis slightly inclined toward the horizon, while the body of the storm is carried forward. There is, therefore, within the vortex a continual admix-



ture of the lower with the upper strata of the atmosphere, so that cyclones are frequently attended by frightful rain-storms. The cause of the revolution is still a fruitful source of discussion. Herschel's explanation is the most satisfactory : when two of the vast barometric waves, which continually move in the upper regions of the air, cross each other, a rotating wind may be caused—just as when two tidal waves cross, eddies and whirlpools result. W. C. Redfield has shown that the rotation, once begun, is maintained by the pressure of external air entering the vortex below and ascending spirally to the top. The direction of rotation is invariable in the same hemisphere—in the north, W.N.E.S. ; in the south, W.S.E.N. The rotatory speed of cyclones ranges from seventy-five to one hundred and thirty miles per hour ; but the rate of progression rarely exceeds fifteen or twenty miles per hour, and vessels have been known to overtake such storms. In one case a British man-of-war actually sailed through a hurricane.

Within  $10^{\circ}$  of the equator cyclones rarely occur, for there the air moves but in one direction—upward ; north and south of this limit they are more or less prevalent as far as latitude  $45^{\circ}$ . Starting about  $10^{\circ}$  or  $15^{\circ}$  north latitude, a cyclone, with an area varying from fifty to one hundred square miles, moves north and west until it reaches latitude  $28^{\circ}$  or  $30^{\circ}$ , the limit of the trades. Here it sweeps round, taking a northeasterly direction, enlarging its area as it goes. Its course at length becomes easterly, and when it reaches but  $40^{\circ}$  its area is so great, frequently one thousand square miles, that the storm is dispersed.

The destructive power of hurricanes can be well seen only in the torrid zone and the adjacent portions of the temperate. A writer in the *British Quarterly* asserts that in tropical countries one may often see a whole crop of gigantic sugar-canes cleared in a moment, and carried off roots and all by the whirlwind. By the last great cyclone that passed over Ceylon and southern Hindostan, upward of fifty thousand persons were killed. On the African deserts tornadoes (miniature cyclones) raise pillars of sand, frequently two hundred feet high. On the sea they form waterspouts, which dismantle and sometimes even sink large vessels. Where a true cyclone passes over the ocean, the water within the vortex is raised about two feet above its proper level, producing what is termed the "storm-wave." In 1789, the city of Coringa, on the Coromandel coast, with twenty thousand of its inhabitants, was destroyed by a succession of these waves ; and again, in 1839, from a like cause, about an equal number perished.

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THE real design of education is, to give children resources that will endure as long as life endures ; habits that time will not deteriorate nor destroy ; occupation that will render sickness tolerable, solitude pleasant, age venerable, life more dignified and useful, and death less terrible.

## SUGGESTIONS TO ASSISTANT TEACHERS.

**T**HE education of children in masses is a business ; it should be conducted on business principles ; and those engaged in teaching must conform to these principles, if they hope for success.

There is nothing more essential to success in business than punctuality. A laborer who is habitually late is not tolerated, and the clerk who is frequently absent from duty soon finds his place permanently filled. Every one admits the justice and the necessity of this. Punctuality is equally necessary in teaching ; yet the records of many large schools show an irregularity upon the parts of the assistants, which, if allowed in any other business, would ruin it. We know that some absences are unavoidable. These should be excused ; but our point is this—that teachers allow themselves to be absent for reasons which in any other business would not be thought sufficient.

Closely connected with this subject is promptness in the discharge of school duties. Teachers sometimes allow the arithmetic to run upon the reading ; the reading to crowd the geography ; and the geography to completely oust the spelling. With what feelings would a merchant regard his clerk who repeatedly failed to do the proper thing at the proper time ? A principal soon loses all hope of making a good teacher of one whose ideas of order are in a chronic state of confusion ; and no teacher who lacks punctuality and promptness must expect to give satisfaction, or to make progress in the profession.

Again, of two business men, he who strives to learn every thing connected with his pursuit, to make himself acquainted with the practices of others in the same occupation, will succeed better than he who only performs, no matter how conscientiously, his daily routine. One becomes an originator as well as an executor ; the other, a necessary wheel in the machine, which can be duplicated.

The assistant who would rise in his position must not be content with the knowledge he possesses when he enters. On the contrary, while his days are given to the art, his nights must be given to the theory of teaching. He who, having once received a certificate, considers himself at liberty to rest, and thinks all further requirements to study, in his case, an imposition, will certainly find the better places in the profession filled by those who started with him, perhaps, yet did not deem their diploma a reservoir of knowledge, or a fountain of inspiration in the art of teaching. As well-directed effort is a sure passport to success in business, so it is equally certain to win advancement in the teacher's profession. The assistant, therefore, should lose no opportunity to add to his stock of knowledge, especially such as will lead him to a better acquaintance with the human mind, and the laws which govern its workings.

A business man who takes a situation until something better offers, usually puts only enough energy into the pursuit to prevent a complete failure. He expects no great reward, and is seldom disappointed. In business, only life-pursuits are successful, and those temporary ones which are pursued with equal energy. Now, most male assistants regard teaching as the stepping-stone to some other profession; and most female assistants look upon it as a respectable manner of passing the few months or years which intervene between the time of their leaving school and the period when they shall enter upon their predestined lot. The first class expect to study as much in preparation for their life-work as they would if not engaged in teaching; and the second class hope to attend just as many balls and parties as the veriest "highflyer at fashion." When the first should give his attention to the "mess" which Peter Jones is making of his geometry recitation, his thoughts are busy with his favorite author; and when the second should see the spider-tracks which Peter's sister is scrawling in her copy-book, she is thinking what she will wear at night to the party, or how she shall dress her hair. At recesses, and all odd minutes, the one pulls out the book which he reluctantly closed to enter upon his daily task, while the other rushes to her mates, to tell her adventures of the previous evening, or to hear a similar narration from others. Success cannot attend such teachers, and school-officers, who are usually business men, are not slow to perceive it. To all such teachers, just this: first your school, then your pleasure. Allow your superiors to complain of no neglected duty; and then, as much of pleasure as your time and conscience will permit.

In business, the success of the firm is dear to every faithful employee, and the disasters to "our house" are as keenly felt by the clerks as by the head. Assistants should feel a like interest in the success of the school. A principal, whose efficiency is undoubted, cannot have a good school unless thoroughly and honestly seconded by his assistants. Such a principal is not likely to have much esteem for those who carry out his suggestions mechanically, and with so little heart, that failure is almost certain. There is no better or fairer way to remove an inefficient principal than for his assistants to prove themselves, by their works, to be his superiors. But the success of principals and assistants is mutual.

It seems to us, therefore, that those assistants who are punctual at school, prompt in discharging their school duties, eager to perfect themselves in the principles and detail of their profession, zealous in the discharge of their daily duties, anxious for the success of the school, and indifferent to none of its affairs, cannot fail to win the approbation of their principal and to rise in their profession; while those who pursue the opposite course must look for opposite results. It is in accordance with inexorable business laws, and it is time that these should be more fully applied to the management of schools.

## ISOMETRIC DRAWING.

## LESSON III.

*Sections of the Cube.*

OUR practice in this lesson will be in drawing cubes that have been cut by planes parallel to the sides.

The rulers are to be employed precisely as in the last lesson, and a complete cube, like Fig. 13, is to be drawn as the first step in each diagram.

The letters AEFHIKL will be found in the same positions, whenever they are used about the cube, as in Fig. 5 and Fig. 13; so that AE will always be the lower left-hand, and AK the lower right-hand line of the cube, and so on for the remaining letters. By this plan you will soon get accustomed to their positions, and will more easily understand the references to the figures.

I advise you to draw each of the diagrams of this lesson first upon paper, and to make each cube exactly one inch on each side; then, if you choose, draw them upon the blackboard at least four times as large.

The drawing should be made first upon paper, in order to acquire the right use of the triangles. We will adopt the inch scale, because the quarters and eighths are so common upon the *rules* in general use.

The figures accompanying this lesson were made smaller in order to get the required number upon one page.

Now, to draw Fig. 14, make a complete cube like Fig. 5; find, by measuring, the middle point M of the line LF; now place your triangles in proper position, and draw from M a line parallel to AK or LI; it will come to N, the middle point of HI.

From M draw a vertical line downwards one-fourth of an inch; from this point T; draw a line to the left parallel to AE—this will be TV; from V draw VW parallel to AK, and one inch in length; finally, draw a line from W parallel to AE, till it meets the line NM.

The lines NH, HF, FM, and FV may be erased.

Now draw Fig. 15, which is a cube cut just as deeply as Fig. 14, but on one of the nearer edges, so that it is like Fig. 14 turned half way around. I need not direct you how to draw the separate lines, but you will notice that it requires two more lines than Fig. 14.

Unless you are careful, you will forget to draw the line TX.

Fig. 16 is a cube cut at two lower edges; the pieces taken out are of the same size as those cut from the two figures preceding. It requires just as many lines as Fig. 15.

For Fig. 17 draw again a complete cube, and measure a quarter of an inch from each end of the lines FH and LI; this will give the points T, V, W, and X. Now draw a line from W to T; also from X to V. From T and V draw vertical lines downward, each three quarters of an

Fig. 14

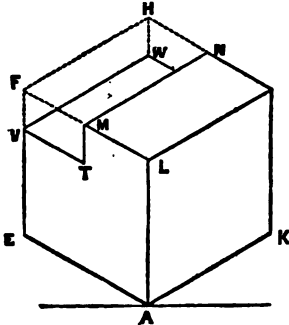


Fig 15

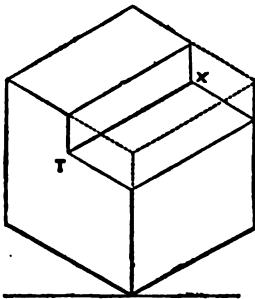


Fig. 16

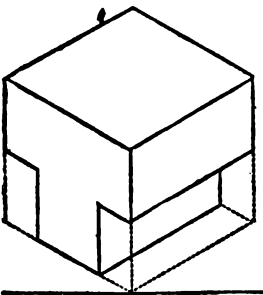


Fig. 17

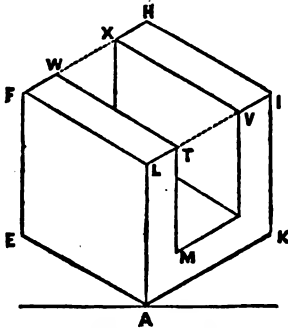


Fig. 18

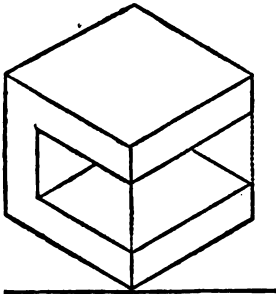
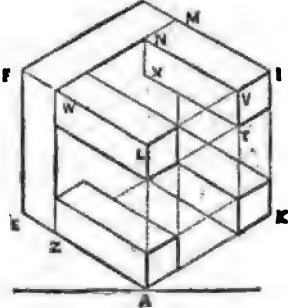


Fig 19



inch ; the extremities of these lines are the points M and N ; draw MN, which will be parallel to AK. From N draw a line parallel to AE till it meets MT, and from X draw a vertical line till it meets WT, and the figure will be complete.

As Fig. 18 requires exactly the same number of lines, I will omit any further reference to it here.

Fig. 19 is the cube cut through in two directions just as deep as in 17 and 18. You will notice that it represents a rude kind of table or bench turned over upon one side.

Having drawn the cube as before, measure a quarter of an inch from each end of the four lines AL, LI, IK, and KA ; join these points of division by faint lines, as in the diagram ; their intersections form four little parallelograms which represent the ends of the legs or standards. Draw these ends heavier than the rest of the lines just drawn.

Next, measure from F a quarter of an inch on the line FL ; from this point, W, draw lines WM and WZ parallel to FH and FE.

Now draw from V a line parallel to IH to meet WM, and from T another line, TX, in the same direction, three quarters of an inch long. Draw from N to X ; it should be a vertical line.

You might draw NX before TX by making it vertical, and exactly a quarter of an inch long.

The upper right-hand standard is now complete. Draw next the opposite one at the lower left-hand corner ; the number and length of the lines are the same as in the one just drawn.

This leg, whose corner is at L, is easily completed by drawing the two lines from the upper and lower corners of the parallelogram at L, parallel to AE, till they meet WM and WZ.

In like manner, finish the leg whose corner is K, by drawing the three lines as in the diagram, parallel to AE, to meet the corners of the opposite leg.

Two short lines remain yet to be drawn ; they represent the edge of the top part of the table on the two further sides.

Place your triangle for drawing a vertical line from M downwards, but do not draw across the legs already drawn, only between them. In similar manner place your triangle when drawing from Z a line parallel to AK, but draw only the small portion shown in the figure.

These little lines just drawn would show where the lines of the leg K should end, if they had not been also terminated by the corners of the leg at L.

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THE grand error of life is, we look too far—we scale the heavens, we dig down to the center of the earth for systems—and we forget ourselves. Truth lies before us ; it is in the highway path, and the plowman treads on it with clouted shoes.—*Sterne.*

## AN EX-SCHOOLMASTER IN CHINA.

## A TRIP TO THE GREAT WALL AND JE-HO.

HAVING no day of rest corresponding to the Christian Sabbath, the Chinese make the few festivals, which relieve the monotony of their continued round of toil, the occasion of great rejoicing and an entire cessation from labor.

The most important of these festivals is that of the New Year, which occurs sometimes in January and sometimes in February, of the Western calendar. For the first three days of the year the shops and other places of business are closed; and by some the observance is continued for a much longer period. Our teachers take a vacation of fifteen days at this time, and we determined to improve the opportunity by a visit to the *great wall* and *Je-ho*—generally spelled *Jehol* or *Zhehol*. The pass of Ku-pei-kou, or “the old North Pass,” is nearly eighty miles northeast of Peking; and Je-ho, “Hot Stream,” is about fifty miles beyond the pass, in nearly the same direction. The wall is seen at great advantage at Ku-pei-kou, and Je-ho is interesting from containing the imperial summer residence and hunting-park, besides several magnificent temples of the Lamas, the principal one being the celebrated Pootala.

The Chinese New Year occurred this year on the 15th of February, the vacation commencing five days earlier. We left Peking at noon on the twelfth, a mild and beautiful day, and were favored with similar weather during the entire trip, with the exception of the last day. Shortly before passing out of the city gate we met the embassy from Corea, just arrived to pay their annual tribute to the emperor. The roads from Peking were exceedingly dusty. The soil is a light sandy loam, cultivated with the care and diligence characteristic of the Chinese. Small villages of neatly built mud-houses occur at frequent intervals. On the road we met numerous carts laden with grain and other articles for the use of the capital. These carts were drawn by the most nondescript teams, composed of mules, ponies, donkeys, and oxen—the large grain-bearing carts being drawn generally by six, seven, or eight of these animals indiscriminately harnessed in lines two or three abreast. To the west, in a line parallel with the road, and from five to ten miles distant, lies a range of mountains, barren and rugged, but softened in appearance by the distance. Along the road numerous small groves of a species of willow pleasantly relieve the level monotony of the plain, and form almost the only exception to the general absence of trees in Northern China. No forests are seen in any direction to form a prominent feature of the landscape—the improvident inhabitants having long since exhausted the original growth, and failed to provide for its renewal.

We spent the first night at Santien, the *Three Taverns*, a small village

about twenty miles from Peking. A Chinese inn bears a sorry comparison to a tavern at home. You enter through a covered gateway to a large courtyard, on each side of which are open sheds for the animals, and at the back a row of rooms. The central room, elevated a little and better than the rest, is generally occupied by the better class of travellers. A brick couch, called a *kang*, which answers the double purpose of chair and bed, is always built across one end of the room. At night a fire is built beneath the bed, rendering it quite comfortable. The scarcity of fuel forbids the use of fire for any other purpose except cooking.

One or two small tables, with occasionally a chair, constitute the sole furniture of the room. Our two servants prepared dinner for us, and we slept very soundly on the hard bricks with such skin rugs and blankets as we had brought with us for bedding. Our custom was to start at about 7 A. M., stop at an inn at eleven o'clock for breakfast, and then ride until six at night. Inns occur at brief intervals. A very large number of them are kept by Mohammedans—a noticeable circumstance, showing the prevalence of that religion in Northern China.

On the afternoon of the second day we passed the large-walled town of Mi-yün-hien, and halted for the night about six miles beyond. At Mi-yün the mountains first appear on the east, and thence to the wall the road runs through a valley of variable width, crossing several spurs of the mountains through deep passes. The next day, the 12th, soon after noon, we passed another walled town, Shih-hia. The walls of both these cities were quite dilapidated. A short distance beyond the latter I obtained, with the aid of a glass, my first view of the *Great Wall*. It was distinguishable by its towers, scaling a range of high mountains, and presented a grand and imposing appearance.

As you approach the wall the road becomes more rugged and difficult, and for several miles follows a mountain stream through a narrow pass, at the summit of which stands the Man-tien mên, "Gate of the Southern Heavens." From this point a magnificent view of the wall and an intervening valley is obtained. As far as the eye can reach toward the west and toward the east, the wall can be seen following the crest of the mountain range, the square outlines of the towers standing out against the clear sky. Here we met a train of camels laden with articles for Peking, and driven by fat, jolly, dirty-faced Monguls, who greeted us with their customary salutations of "Mundee." Crossing the valley we soon reached the first gate, there being in all five at Ku-peï-kou, through as many different branches of the wall. The town is situated within the inclosure made by these branches, which appear to have been built to strengthen the position—this being one of the principal channels of communication between the regions on either side of the wall. A small river runs through the pass. The wall, viewed from the valley in which the town lies, presents a noble prospect, the different branches, crowning the mountain ridges and



stretching away until lost in the distance, made an impression upon me which I shall never forget. For over two thousand years this wall has stood the force of the elements, and now remains, though in a ruined condition, the most stupendous monument of human power and folly in the world. The amount of labor expended in its erection is almost incredible.

In the pass at one of the gates I noticed a novel way of getting a heavily-laden cart down a steep hill. Three or four mules were tied by ropes around their necks to the hinder part of the cart, and then the animals drawing the cart were started on. The mules, true to their nature, on perceiving themselves drawn forward, pulled back with all their might, and thus prevented the cart from rolling too rapidly down the hill. On arriving at our inn we proceeded as usual to occupy the best room. An interesting scene, and one quite illustrative of Chinese character, at once occurred. The innkeeper came into the room with a haughty air, and demanded just five times the customary price. On being remonstrated with, he exclaimed, "These outer barbarians do not understand—." He did not have time to say more before he was made aware that the present "barbarians" did understand at least enough not to be swindled as foreigners generally are by the Chinese. In the evening our kang, not being sufficiently warm, we called for more fuel. The innkeeper protested that there was no more to be had; but a quiet suggestion that the chairs and tables in the room would answer the purpose admirably, brought such a supply of fuel that we were well-nigh baked before morning. Nothing succeeds so well with these Chinamen as the display of a little determination and energy. The petty tricks and devices to which they resort to impose upon strangers are beyond conception.

We spent a day at Ku-peï-kou, and climbed the hills on both sides of the valley to examine the wall. In many places it is much broken down, the parapet and upper part of the wall having fallen to pieces; but the general form is well preserved. The foundations are of large blocks of granite or conglomerate, regularly and solidly laid. The bricks which form the sides of the superstructure are firmly bedded in hard white mortar. The great strength of the work, when new, may be judged from the fact that I labored nearly half an hour with hammer and chisel to free a brick, the most easily obtainable of any that I could find. This brick, which I brought away, measures seventeen inches in length, eight in width, and four in thickness, and weighs forty pounds.

At one of the imperial travelling palaces situated in a pleasant grove about twelve miles beyond Ku-peï-kou we obtained another fine view of the wall, the sharp outline of the towers being distinctly discernible against the clear blue sky.

The character of the country now becomes more rugged, the road running through a narrow valley between mountain ranges whose rocky sides were barely covered in places by a scanty vegetation. Occasionally small

groves of oak and pine occur, but the general appearance of the country is that of barrenness and solitude. The inhabitants, scattered in hamlets along the road, eke out a scanty subsistence by cultivating the little patches of land in the narrow valleys. Several flocks of small black goats were seen browsing on the steep hillsides. In a narrow and precipitous gorge, on the left of the road, a beautiful frozen waterfall of the purest whiteness glistened in the sunlight. A short distance beyond we arrived at the first of the *San-tao-ling*, "The Three Passes," which must be crossed before reaching Je-ho. These passes are quite long, and so steep that we were thoroughly tired before reaching the summit, while the mules had great difficulty in dragging the empty carts up the ascent. Two of these passes are cut through the solid rock at great expense of labor, and in the last a slab bears record that the pass was completed by the Emperor *Kanghi* in the year 1717. A pair of singular rocky towers stand on the right. They rise to a great height, and are much smaller at the base than near the summit. One of a similar form, situated on a flat mountain top near Je-ho, bears a striking resemblance to the funnel of a locomotive.

On the afternoon of the next day after leaving Ku-peï-kou, we arrived at Je-ho, the furthest point in this direction, I believe, hitherto reached by foreigners. At the entrance of this place we were greeted with the sight of seven or eight human heads hung in cages on a pole in a conspicuous position, as a warning to robbers, such having been the former owners of the hideous blackened skulls thus exposed.

It being New Year's day, the people were out paying their calls, arrayed in their best garments, or in garments hired for the occasion, and wishing each other Happy New Year, or "New Joy," as they express it. We spent a day at Je-ho, visiting objects of interest. Near by, the imperial park, ten or twelve miles in circumference, lies on a hill which rises in the centre of a circular valley surrounded by mountains. The town is situated on the southern side of the valley, and the temples previously mentioned, on the northern slope. The scenery of the whole valley is exceedingly fine. Admission to the park was not allowed, every thing imperial being forbidden ground. An elegant nine-storied pagoda rises near the eastern wall, and numerous pavilions and palaces grace the romantic groves and lawns within. By a little management we gained admission to the principal temples. The great Pootala is well worth a journey to see. The buildings are of Thibetan architecture, and present a striking contrast to the fanciful structures of the Chinese. The main edifice is nearly square, and about a hundred and fifty feet in height. Its exterior is plain, but very imposing in its simple grandeur. Behind the temple rises a hill from which a fine view of the valley is obtained. Within the spacious grounds surrounding the temple are numerous smaller buildings of the same style of architecture, and a handsome open Chinese pavilion covering a lofty slab, on which is inscribed in Chinese, Manchu, Mongul, and Thibetan, the

date of its erection (1772) by the Emperor *Kienlung*. A little to the east of the great temple stands another of the same style and of nearly the same size. Still further east is the *Temple of the Great Buddha*, so called from a colossal gilt statue of that deity, upwards of forty feet in height. In all these temples numbers of Lama priests, indolent and dirty, were idling away their time.

We left Je-ho early on the morning of the 17th; passed Ku-pei-kou on the afternoon of the 18th with no incident of note except the sight of a Chinaman washing his face, whereupon we at once set him down as crazy, it being the first instance of the kind we had seen during the winter. A few miles further on we met a train of a hundred camels returning from Peking laden with native cotton cloth. The night of the 19th we spent at Hwai-jou-hien, in the worst and dirtiest rooms we had seen during the trip. On offering the inkeeper, an uncivil, churlish fellow, only twice the proper price instead of three times that amount, as we had been accustomed to pay, he insolently refused to receive the money, demanding eight-fold for his wretched quarters. Our carts were ready to start. Throwing the proffered cash upon the ground, he said he would not open the gate until we had acceded to his demand. He was instantly seized, marched to the gate, and ordered to open it forthwith. Two of his servants, seeing their master in the hands of the horrible barbarians, and fearing lest he should be devoured at once, rushed to the gate and opened it with all possible speed. We left the surly fellow storming at his bad success.

The next day we rode westerly along the base of the mountains to the Ming tombs. As we were now off the regular highway, no inns were to be found. At a little village we breakfasted on "ping," made of flour, water, and oil, seasoned with a little salt and much dirt.

During the greater part of the day we rode through orchards which supply the markets of Peking. Apple, pear, peach, and persimmon trees, were in endless profusion, and in spring and autumn must present a beautiful appearance. I had lived six months in Peking without seeing a single fruit-tree, and had often wondered whence came the vast quantities of fruit seen in the city. But the immense orchards we now saw fully accounted for the supply.

In the afternoon a dust-storm arose, hiding all landmarks. We lost our way, and crossed a terribly rough country for several miles. At dusk we arrived at the "Tombs." These are the tombs of the emperors of the Ming dynasty, who ruled China from A. D. 1368 to 1644. They are among the most interesting objects in the vicinity of Peking. As we made but a hasty survey of them, and intend to visit them again during the summer, I will defer a description until some future occasion.

The next day we returned to Peking, having made a trip of eleven days of great enjoyment and interest.

## GEOGRAPHY.

**T**HERE is among the live instructors of the land no feeling more common than that of dissatisfaction with the ordinary methods and means of teaching geography. As it is taught at present in most of our schools, too much time is occupied and too little accomplished; too much recited, and too little remembered. By right methods of instruction, a much better knowledge of geography might be acquired in one-fourth of the time that is now spent upon this study.

We hope to be able to point out some of the mistakes to be avoided, and to suggest a few improvements, by means of which the time spent upon this important subject may yield to the pupil a better reward.

*Maps.*—The first great reform should be to erase nine-tenths of the matter from our maps. The difficulty of finding a needle in a haystack is almost equalled by that of pupils in finding upon ordinary maps what they are required to learn. Why should maps of reference be made maps of study? Why cannot the wheat be furnished without the chaff? Let our maps contain only what can be readily remembered, and geography will become a pleasant study.

But this is not the only fault of our maps. They not only contain too much unimportant matter, but they represent too little of that which is highly important. While they give us too much in quantity, they give us too little in quality. They should be as perfect representations of the earth's surface as possible. They should contain as many facts as can be examined without confusion. And their value must be in proportion to the truthfulness and completeness of this representation. So if, in addition to showing the contour and locality of geographical divisions, a map can, with equal clearness, be made to represent the physical relief of the land masses, the populations of cities, and the heights of plateaus, mountain ranges, and mountain peaks, the picture is made so much the more complete and valuable.

*The Use of Maps.*—A man's knowledge of geography depends upon the clearness and distinctness of his mental pictures of the earth's surface. It is vain to make the maps of our school-books more perfect and complete, if the pupils studying them do not, by right methods of instruction, gain correspondingly clear and distinct mental impressions of those maps. It is folly to furnish our schools with finely executed and costly copperplate and lithographic maps, while the mental pictures the children acquire are but as the poorest wood-cuts.

Much is said about clothing a map with the life and beauty of the country it represents. This is well. The live teacher will omit no opportunity of withdrawing the minds of his class from the representation to the realities. But it must be remembered that nothing tends so directly and

effectually to make real the thing represented as a distinct and definite idea of the representation itself. Let the teacher be sure that good photographic pictures of the earth's surface are made upon the minds of his pupils, and then he is ready to talk to them of the wonders of boiling springs, of burning mountains, of buried cities, of rivers of moving ice, of dark caves, and mighty cataracts. Then he can scale with them the mountain sides, or sail down noted rivers, or visit renowned cities. Then the study of the character and habits of different nations, a survey of the characteristic vegetation of different zones and of the peculiarities of the animals of different continents, will become pleasant and profitable.

In teaching geography there are two extremes, both of which must be avoided. The teaching may degenerate into mere map-teaching, or it may fall into the other extreme of becoming purely descriptive. The *names* of mountains, valleys, oceans, cities, rivers, etc., must be taught, and a picture giving their relative locations must be studied; but these names should be so joined with the realities as to create in the minds of the children a lively and pleasant interest. By a judicious course of instruction between these two extremes, the right kind of maps will become, as they should, true and interesting interpreters of nature.

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### IS COLLEGE EDUCATION DECLINING?\*

THE President of Columbia College, New York, in a recent paper of great research and statistical value, has avowed his conviction that college education, as such, is greatly on the decline in the United States; so that whereas one in forty-one used to take a college course, now not above one in sixty does so. Perhaps hardly any more competent or considerate educator of youth could write on this subject. He is himself a graduate of Yale, a teacher nearly all his life, distinguished as a professor both in the North and in the South, and in several distinct professorships, especially the higher walks of mathematical and astronomical science, chemistry, and mineralogy. Is it so, then, that the proportion of college students is declining? And, if so, what does it indicate? A decline in the love of high scholarship, or simply the conviction that there are other and better ways of practically securing the best education? There are many things that appear to favor different conclusions from those of President Barnard. Thus, where do we find a single college once well established that has had to be shut up for want of students, or even from a diminished number? Yet new colleges are continually being established all over the land, and are raising both their price of tuition and standard

\* Philadelphia Public Ledger.

of scholarship. Never, perhaps, in the history of the country have such large and additional endowments been secured for these institutions as within the last five years.

Many of our colleges seemed to be threatened with decay by the late war, but they generally appear to exceed all former prosperity now that peace has been restored. In hard times the number of students diminishes, while in flush times, like the present, students flock largely to college. All these things must be taken into the account. That the number of graduates is increasing absolutely would seem to be certain; but whether in proportion to our population, the statistics of Dr. Barnard will be most valuable aids in determining.

Supposing, however, that the number of college graduates is declining relatively to population, what is the cause? In part it is the higher standard of education required for beginning on such a course. At Princeton, Harvard, and Yale, the amount of classical preparation to enter is practically far higher than used to be necessary to graduation—higher than is really necessary now for graduation in many of our younger colleges. Dr. Hedge gave an accurate description of all this a few weeks ago, as far as it pertained to Cambridge. He showed that in its early history, though nothing but Latin was to be spoken within the walls, yet nothing beyond a little of Cicero and Virgil were allowed to be studied, and in Greek the New Testament alone; while the arrangement of the different heads of sermons in common-place books was the chief training of the student mentally. Such was college education in New England at first. Even in the last twenty years the requirements for entering are so much more strict in all the older colleges, that this sort of life is getting to be quite a different thing. Aaron Burr entered the Sophomore class, at Princeton, at thirteen, and graduated at sixteen. Now the average age for entering Harvard and Yale is seventeen and a half. A college course education, therefore, has gradually become somewhat revolutionized, though called by the same name. It is intended now for young men from eighteen to twenty-two, instead of for youths from fourteen to eighteen. The standard of education is not only rising for youths of the same age, but the average age through which it is carried on is rising also. So far has this been extended, that Harvard now proposes to begin with the present Sophomore standard, and from that point throw away all further compulsory study of the classics or mathematics, and allow instead a four years' course of optional studies—a university instead of a college course. Whatever, then, may be coming to college courses, the demand for education of the highest character is rising amongst us, and all colleges feel the influence of that movement. Equal to what used to be the best college education, is becoming in many different ways attainable all over our land more readily than ever, and by those who seek it from the plow, the loom, or the anvil.

The chief real question, then, is this: How far should a system of *general* education be carried, before a *specific direction* be given to it connected with the future profession of the young man? If he is going to be a lawyer, a divine, a medical man, or a scientific farmer, or an educated mercantile man, or dealer in stocks and exchange, how far should all these have a common education in the same text-books, and where should each branch off on his own specific road? At West Point for the army, and the Naval School for the navy, the separation begins at about the point where a youth would be considered well prepared to *enter* college. Yet, as a general rule, the broader the base of general principles—that is, of common or universal education—the higher the superstructure of a specific education can afterwards be profitably carried.

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## PLANTING-TIME IN GOSSIPBOROUGH.

### CHARACTERS:

FARMER THRIFTY.

FARMER THRIFTY'S WIFE.

FARMER THRIFTY'S SON HARRY, (*home from college.*)

MISS LOQUACITY, (*the news-peddler.*)

SCENE—Kitchen. TIME—Afternoon of a rainy day in May.

(*Right*) FARMER T., sitting on a low chair, shelling corn.

(*Center*) MRS. T., in bordered cap standing at table, ironing.

(*Left*) HARRY T., in study-gown and slippers, lounging upon a sofa, reading.

Mrs. T. I do say for it, Hezekiah, I shall be thankful when you get done making so much muss. When 'll you be done planting?

Farmer T. Oh, dear! I don't know. If we have much more of this wet weather, the corn's just as well off in the corn-house. It'll all rot if planted. We'll put it in as soon as this spell's over [*with a side glance towards HARRY*]. Harry likes well enough to spend the money; perhaps he'll lend a hand for a day or two, just to help us through.

Harry. I have been expecting that honor ever since my return from college. For such delightful service I shall need a uniform consisting of a broad-brimmed hat, a hack-about, scare-crow suit, a pair of gloves, and big boots—[*aside*] conditions hard to comply with, I reckon.

Mrs. T. My son, perhaps you'll find what will suit you in the attic. [*Tests the heat of her iron with finger moistened by the lips*].

Harry [*with a disconsolate look*]. All right, mother. There's nothing like being ready for an emergency. The weather may be fine to-morrow. I'll try my luck on an attic expedition. [*Exit.*]

Farmer T. I don't want you to get any more potatoes out of the big bin. There won't be enough left to plant.

Mrs. T. Well now, I do say, there it is again. You men never think

women's time good for any thing but to waste. Do you want me to blister my fingers on those little bits of potatoes in that small bin? Well, I sha'n't do it. So, there. [FARMER T. *shells violently.*] The small potatoes are just as good as any to plant. You allers cut up the big ones. What's the use? [*Irons away vigorously.*]

[*Enter Miss LOQUACITY, without warning. Talks very fast.*]

Miss L. Lah suz! good morning. How do you do? Hard at it, I see. I came right in without knocking. Don't disturb yourself at all. I'll wait on myself. [*Helps herself to a seat.*] I feel kind o' at home here. What's the sense o' going into a neighbor's house to be waited on? I try to feel perfectly at home wherever I go.

Farmer T. [*aside.*] That's the bother of it.

Miss L. Bless my heart, Lucy Ann, you don't know how I've wanted to see you all this week, and now its Wednesday; but you know it's been so awful wet. I sot out as soon as it held up. Lah me! do you know I fell in love with your new bonnet, last Sunday?

Farmer T. What if some luckless fellow had treated you in that way, Miss Loquacity?

Miss L. Me! Why, how?

Farmer T. As you did the bonnet.

Miss L. Well now, Uncle Hezekiah, you are too bad. There's no fear of that.

Farmer T. Uncle! Ugh! Uncle!

Miss L. Lah suz, I call that bonnet lovely. I said as much to Mrs. Stimpson, and, upon my word, what do you think she said. Just as sure's I set here, she said it was ugly's Cain. I don't care what the Stimpson's think, I mean to have one just like it. Did Miss Jenkins make it?

Mrs. T. No; I got it of Mrs. Millen.

Miss L. They say Mrs. Millen is going to be married to old Sniffins.

Mrs. T. I can't believe it.

Miss L. Nor I; but they say it's so. Lah suz me! there's lots o' folks going to be married. The school ma'am is going to marry Seth Jones; and Susan Jones is going to marry their hired man. Isn't that awful? Did you ever think Jennie Smith, who's been away to boarding-school, would take up with John Peters? They say that's coming off soon. And there's a stranger from out of town visiting Anne Stimpson. Anne and brother Sam have allers been pretty thick. I'm 'fraid something's wrong. Don't you think Mr. Larkins, whose wife died only last March, goes to see that young Miss Atkins! At least, I saw him going that way. Who do you suppose is going to take Fannie Lucas. She's been getting, I don't know how many, new dresses, and has had a dress-maker at the house a whole week—



[Enter HARRY, in his attic uniform.]

Bless my soul and body! [*Stares at him.*] Upon my word, Harry Thrifty, is this you! Have you just come from college?

Harry. Oh, no. I have been home several days.

Miss L. Hadn't hearn of it. Lor' bless me! what's this you got on?

Harry. This is the latest college style, Miss Loquacity. This coat has seen the first circles. But it has been badly used. It was, unfortunately, obliged to lie in the ditch overnight not long since, and—

Miss L. Now, that beats all natur. That the kind of clothes they wear at college! I do say for it!

Harry. Why, Miss Loquacity, that hat has covered more brains than some whole families possess. [*Picks up the corn scattered on the floor.*]

Miss L. My stars! is it possible! I do think this is a strange world.— But there goes Parson Loveland; I must ask him where the prayer-meeting is to be this week. Good-day, all. [*Exit.*]

Mrs. T. Why, Harry! I am astonished! You know what a dreadful tongue she has.

Harry. Yes; everybody knows that. But she might as well talk about college styles as any thing.

Miss L. [*Running in.*] Do come here! Come quick. [*All go to the door, Miss L. going out last.*] Do see that rainbow!

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SHOOTING STARS.—The most imposing flight of meteors on record, occurred on the 13th of November, 1833. Astronomers tell us that a similar display may be expected on the same or following day of the current month. Only thirteen of these meteoric showers are recorded between the years 903 and 1833. That of the latter year extended over the entire breadth of North America, and from the Great Lakes to the West Indies. Arago computes that not less than two hundred and forty thousand meteors were visible that morning above the horizon of Boston. In many parts of the country the common people were terror-struck, imagining that the end of the world was come. Those whose education and vigor of mind kept them from such terrors were nevertheless reminded of the grand description in the Apocalypse: "The stars of heaven fell unto the earth, even as the fig-tree casteth her untimely figs when she is shaken of a mighty wind."

It is thought that the expected display will be the last of the kind during the present century.

# AMERICAN EDUCATIONAL MONTHLY.

NOVEMBER, 1866.

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## DEFECTS IN OUR AMERICAN COLLEGES.

THE recent University Convocation assembled at Albany by the Board of Regents of the University of the State of New York, and the exercises at the commencements of the hundred and odd colleges and universities during the past summer, have led us to a somewhat serious consideration of the defects in our collegiate institutions.

One of the most prominent of these is *the want of a high and uniform standard of examination for admission*. A few of our older and better colleges do exact a pretty thorough preliminary training, and reject all who do not come up to the standard; but these comprise only institutions which, from their ample endowments and facilities of instruction, are sure of full classes under any circumstances. The younger and weaker colleges, even in the Eastern and Middle States, not only adopt a lower scale of requirements, but do not even exact a compliance with these, and admit young men to the Freshman class, who are sadly deficient, not only in the prescribed classical and mathematical attainments, but in the more indispensable studies of an ordinary English education.

A second defect in collegiate management is *a want of thoroughness in instruction*. The classical and mathematical instruction at Yale is certainly as thorough and critical as that of any college in the United States; yet how few, even of the students who take the honors, can a year after graduation write a Latin or Greek oration which shall make any approach to classic accuracy and elegance, to say nothing of efforts in Latin or Greek poetry! And if this is true of Yale, how much more is it true of the hundred colleges which have never made an approach to the high standard of scholarship of that venerable institution!

The *order and progression of studies is badly arranged*. We do not object, as some do, to the confining of the greater part of the linguistic studies of the course mainly to the first two years, for we are satisfied that languages are acquired with greater facility by the young than by those who are older; but it is manifestly wrong to put upon the new student,

who has not acquired the habit of studious application, a severer task than is required in the junior and senior years. Yet there are few colleges in which the studies of the Freshman and Sophomore years are not more difficult and engrossing than those of the junior and senior years. If the college curriculum must be limited to four years, and it would be difficult to add another year, then some of the least important studies should be dropped, and the senior year should be utilized more fully than it now is. In most of our colleges the senior year, the very time that the mental muscles are most firm and vigorous and the mental grasp most certain and comprehensive, the student has comparatively little to do. In some colleges, even a majority of the senior class are absent the greater part of the year, teaching or studying a profession; yet they receive their degrees just as if they had been in constant attendance, the real examination for graduation being at the close of the junior year. If we are to have a four years' course, the senior year should be the hardest working year of the four; and it might well be that the study of physical as well as of metaphysical science, especially in the higher and more practical relations of the former, should be deferred to that year. This would be a great advantage to students who intend prosecuting a further scientific course, as well as to those who look forward to teaching, or to the medical profession; and it would not come amiss in the other learned professions.

The desire to graduate a large class leads many of our colleges to be *lax in their annual examinations and their examinations for graduation*. Very few of our colleges remand the delinquent and incompetent scholars of each class to the ranks of the class below. The greater part go through the farce of passing those who have failed utterly, *speciali gratia*, making a pretence of requiring them to make up during vacation for their deficiencies. This is but a pretence, and the result is that almost every college graduates annually from three to a dozen blockheads,—young men who have managed to get through college, without acquiring even the rudiments of an education. How much better is even such severity as is practiced at West Point, where the class which entered a hundred strong seldom graduates more than from thirty to forty!

Another fault in our colleges, and the last one we shall now particularize, is, *their perfect recklessness in conferring honorary degrees*. The honorary degree of *Master of Arts*, which formerly possessed some value, but now from its cheapness is really worthless, is conferred in hundreds of instances on men who only possess the single *art* of fawning on some trustee, fellow, or member of the faculty. A skilful mechanic, who has

made a successful machine, is dubbed M.A., when the only *art* he possesses or is master of, is that of invention. Or some man who possesses a natural gift for mathematics, and who on almost every other subject is nearly an idiot, is authorized to add M.A. to his name. Amid these many misapplications, there is, indeed, now and then an instance where a man, partially or wholly self-taught, has struggled up to a grade of attainment in literature, science, or art, or all combined, which makes him fully the peer of the best graduates of the college which reflects honor upon itself in conferring the title upon one so deserving. But these are the few and rare exceptions, and do not cover one tithe of the cases where this honorary degree is conferred.

If the Master's degree is so often misapplied, and its announcement so often brings reproach upon the colleges, how much worse is the misapplication of the higher degrees of D.D. and LL.D. The "semi-lunar fardels," as Dr. Cox used to call them, descend now upon the shoulders of men who are not learned in divinity or qualified to teach that or any thing else. Of the two hundred and fifty, more or less, doctors of divinity, ground out annually, some of them by female colleges, and some by colleges which seem to maintain a precarious existence merely for the purpose of conferring honorary degrees, it is safe to say that fully one-half are unworthily bestowed. In Europe, except in the Scottish universities, which are somewhat lax in this respect, the title of D.D. means something; it is either received *in course*, as in the Continental universities, after a long course of theological study and a severe examination; or if bestowed *causa honorariis*, it recognizes the man on whom it is conferred as eminent for scholarship, and especially for biblical or theological learning. How is it here? How many of our D.D.'s know little Latin and less Greek? How many are innocent of any knowledge of either, or of any other language except their own? How many lack a decent acquaintance with English grammar or composition? The conferring of a high degree so unworthily is a disgrace to a college. It degrades it in the eyes of the community, and weakens its moral power.

The abuse of the degree of *Doctor of Laws* has been equally gross and disgraceful. The fashion of conferring this degree upon every President of the United States, and every governor of a State, or prominent general in the army, is one more honored in the breach than in the observance. Abraham Lincoln was an admirable President; but was he so profoundly versed in the civil and ecclesiastical laws of his own country and Europe as to be entitled to the degree of *Legis Legum Doctor*? Has

Andrew Johnson any better claim to it? Does Parson Brownlow come up to our ideal of a Doctor of Laws? Generals Grant and Hancock and Admiral Farragut are worthy and excellent commanders, entitled to the highest honors in their particular departments of the public service; but we think either of them would prefer to go into as hot an action as they ever fought, rather than attempt to expound either ecclesiastical or civil law.

But the perversions of this title do not stop here. Within a dozen years it has been bestowed on scores if not hundreds of persons whose attainments gave them not the slightest claim to it. Manufacturers of elementary school-books, some of them, men who had taken up the business after failing in trade; men, whose books showed them to be as ignorant of the laws of language as of other laws, have been dubbed Doctors of Laws—for what reason, unless it was a pecuniary one, it would be difficult to say. A bookwright of the lowest capacity, whose books were made wholly with the scissors, for years before his decease, wrote LL.D. after his name, and, we suppose, rightfully, though it would be hard to imagine what could have induced a college to confer it upon him. Peripatetic lecturers on some branch of physical science, have considered the LL.D. a desirable addition to their resources, and colleges have been found complaisant enough to confer it. An enterprising young man, in a neighboring city, who by dint of the “magnificently monotonous” style of advertising, had succeeded in creating for himself a large and flourishing business, and though possessing but an ordinary education, fancied that it would add to his *éclat* to be made a Doctor of Laws, and having, fortunately, a kinsman at the head of a *Female College*, speedily received from that source the right to put the magic letters after his name. We can hardly blame the young man for his aspiring ambition, however ill-placed we may deem its object; but what can be said for the college guilty of such a perversion of its university powers, and what moral right had a college or university, intended exclusively for female education, to confer degrees, which from their very nature imply the existence in it of a department of legal instruction? The demoralizing effect of such action is not confined to the institution which is guilty of it; it tends to the degradation of learning, by prostituting its honors and rewards to unworthy objects; and while such a course is pursued we may look in vain for any elevation of our higher education, or any earnest zeal in the prosecution of study, save as this brings to the student its own reward.

## PUBLIC WILL.

**I**N all places and countries, and under every form of government, public will, or the determination of the majority, is an element of power ; but it holds supreme sway over us—socially as well as politically it is the controlling element of this Republic. It is proper that this should be the case, otherwise we should be no democracy. Those, therefore, whose duty it is to protect their special interest against its perverted uses, must take their chance of obtaining victory or suffering defeat from the encounter. He who strives to serve humanity as a remover of abuses must inevitably commence his attack with powers numerically inferior to those of his adversary ; otherwise he can lay no just claim to the honored name of a reformer.

It may be said, that it is not the part of those engaged in scholastic affairs to canvass the shortcomings of the adult public will, the right tuition of which is strictly the province of the clergy. The force of this statement is admitted ; and we are glad that the frivolity and immorality of the masses cannot be laid to the charge of the schoolmaster. But where a vitiated public will invades our proper specialty, we shall hold it to be our duty to defend the cause of the little ones and their instructors, whose organ we are, by every means in our power.

It was for this reason the article in our late number headed " Keys to Success in Scholastic Enterprises" was inserted. In other words, it was published to prevent the further immolation of the best interests of our children to the Moloch of Fashion. The careful reader of it will perceive that the evils complained of in it are not treated of as solely chargeable to our fraternity. To obtain a little money by amusing rather than instructing youth, is no very heinous sin, especially when such crime is committed to the inexorable requirements of the public will, which latterly has demanded show in place of reality, exhibition instead of instruction. We are aware that many very faithful teachers have battled in vain against the errors complained of, and it may also be our fate to see no present results from our endeavors. Nevertheless, with approving conscience and hope for the best, we intend to continue it. To that end, we purpose soon to examine the very important question of the reciprocal duties of parents and school teachers.

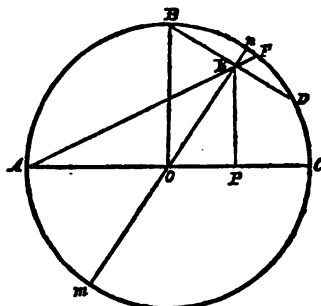
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We should give as we receive, cheerfully, and without hesitation ; there is no grace in a benefit that sticks to the fingers.

## EDITORIAL MISCELLANY.

THE following beautiful construction and geometrical demonstration are well worth preserving.

The question in analysis is not considered difficult; but very indefinite ideas are entertained by many teachers concerning the disposition made of the infinitive "to mind," and we would like to have the question made determinate.

*Approximate Quadrature of the Circle.*

Radius is unity; let  $AE=x$ , and  $EF=y$ .  $BD$  is a chord of  $60^\circ$ ; therefore,  $BE=\text{Sine } 30^\circ=\frac{1}{2}$ , and  $OE=\text{Cos. } 30^\circ=\frac{\sqrt{3}}{2}$ .

By Euclid III. 35,  $mE \times En = AE \times EF = BE \times ED = \text{Sin}^2 30^\circ = \frac{1}{4} = xy$ ; whence  $y = \frac{1}{4}x$ .

By Euclid II. 12 and 13,  $AE^2 = AO^2 + OE^2 + 2AO \times OE \times OP = 1 + \frac{3}{4} + 2 \times \frac{\sqrt{3}}{2} \times \frac{1}{4}x = 1 + \frac{3}{4} + \frac{\sqrt{3}}{2}x = x^2$ ; whence

$$x = 1.6174131827 \dots \text{and}$$

$$y = 0.1545678016 \dots \text{by addition}$$

$$x + y = 1.7719809844 \dots = AF.$$

Hence  $AF^2 = 3.141592653 \dots$  nearly.

This result is so nearly exact, that the question arises whether the difference should be attributed to the construction, or to our inability to determine the exact value of  $\sqrt{3}$ .

## PROBLEM I.

A piece of work was done by a certain number of men in a certain time. Had there been five men more, or four fewer, the time would have been altered by one day. What was the number of men?

## PROBLEM II.

It is between one and two o'clock, and six minutes hence the minute-hand will be exactly opposite to the point where the hour-hand was seven minutes since. Find the time.

## ANALYSIS.

How is the infinitive disposed of in the following sentence?

"Amid the hurry of battle, the soldier is too anxious to perform his own duty to mind what his brother soldier is doing."

## EDITORIAL CORRESPONDENCE.

## REVIEWER REVIEWED.

MR. EDITOR—My attention has been recently called to an article on Clark's Grammar, in the June number of your Monthly. The article in question evinces, at the outset, an entire want of self-consistency. It denounces Clark's definitions in unmeasured terms, forgetting that this is the cardinal sin of all the grammars, the immaculate Gould Brown not excepted. It complains that teaching grammar fails to make good practical grammarians, forgetting that nine-tenths of the current teaching of grammar is the product of systems and text-books that have been, from time immemorial, utterly oblivious of the analysis it condemns, and that the defect, therefore, is not due to the existence or influence of Clark's Grammar. It laments that pupils do not learn to give thought graceful and proper expression in words, evidently unconscious of the fact, that the evil is the natural result of the prevailing method of dwelling upon the mere parts of speech to the neglect of the inspiring and form-giving thought, an evil which Mr. Clark and his brother analysts are struggling to correct. It assumes that pupils cannot fail to be confused by the multiplicity and complexity of the principles and definitions, losing sight of its own previous declaration, that "pupils learn soon enough to take sentences to pieces," that is, to analyze them.

The article complains of Clark's Grammar as crowding distinctions, definitions, and principles in analysis, in unreasonable rapidity of succession, upon the pupil; when nothing is plainer, from a simple inspection of the accompanying exercises, than that if the work of practical application were carried out according to the author's design, the pupil's advancement would be eminently gradual and progressive. It accuses the book of being sadly deficient in providing for the practical work which belongs to a grammar, when the common complaint is that it gives the pupil so much of that work to do in connection with its analysis, that he neglects his "parsing;" and when every teacher, practically acquainted with its use, finds its demands in the direction of proper grammatical exercise (not rhetorical composition, which, the critic to the contrary notwithstanding, has no practicable or proper place in a grammar) so severe as to require an extension of the time usually devoted to the study of grammar. It represents the work of analyzing in connection with the illustrative diagrams, as the mere mechanical artifice of boxing up the disjointed parts of a machine, when it is altogether the logical work of determining the functional relations of those parts, and demonstrating the fact that they have been thus logically determined. A more gross misrepresentation of the nature of Clark's analysis, and the structure and office of his diagrams, can hardly be conceived. It implies that, in Clark's Grammar, the pupil is required to learn to give thought graceful and proper expression in words by merely *looking* at sentences presented for his examination and dissection, when a persistent and prevailing stress is laid, by its whole system, upon the actual analysis of the sentences presented, and their systematic and demonstrative presentation. Finally, it asserts that Mr. Clark constructs diagrams *like chests of drawers*, and then requires the pupil simply to select the sentence following, adapted to the diagram, and



to place it in an exact copy ; and *that he continues this process to the end*, making it the measure of the pupil's skill, when (would your readers believe it ?) there is but a *single diagram*, and a *solitary sentence in the whole book*, to which any such direction is applied, and when nowhere is any such feat accepted as a test of the pupil's attainments.

But let us look at the matter of its philosophy, and its philosophical acquaintance with Mr. Clark's system. It objects, as will be seen, to Mr. Clark's selection for a first general illustration of the object of analysis, of the figurative passage, "God moves in a mysterious way," etc., as ridiculous, and calculated to give boys absurd ideas of God. Are the boys who study grammar so intrinsically stupid as the critic assumes, or are children, with their lively and ever present imagination, to be excluded from the use of figurative language without careful accompanying "note and comment ?" Let us, then, guard them from the use of David's Psalms, lest they receive irreparable injury from reading "The mountains skipped like rams," and a hundred like highly figurative passages that go largely to make up the beauty of the Sacred Scriptures.

But passing from the matter of selections, the article attacks Mr. Clark's analysis as to its recognition of adjective and adverbial phrases, pronouncing them "logical absurdities." Avoiding his sad choice of highly figurative examples, it selects as its citation of "rich and rare device," the "House that Jack built," failing, either from *delicacy* or some other cause, to quote even that correctly in its third line. Here, according to Mr. Clark, it finds an adjective within an adjective ! Well, why not an adjective within an adjective ? Take the word *father-in-law*, and what is *law* but a noun within a noun ; or *whatever*, and what is *what* but a pronoun within a pronoun ; or *something*, and what is *some* but an adjective within a noun ; or *notwithstanding*, and what have you but an adverb, a participle, and another preposition within a preposition ; or more directly, *green-house plants*, and what is *green* but an adjective within an adjective ? Does the author of that article know any thing of the composite nature of even English words, to say nothing of English sentences ? But further, if we are to understand the article from its connection of things, and its use of the correlative term *adverbial phrase*, Mr. Clark finds adjective phrases throughout the whole passage, when the fact is, according to Clark's analysis, neither does a solitary adjective phrase follow the words *house*, *malt*, *rat*, *cat*, and *dog* ; nor are the major adjuncts depending on the words *cow*, *maiden*, *man*, and *priest*, adjective phrases.

As to the question of logical absurdity, how profound the assumption ! What makes an adjunct element an adjective ? It is not its being a *word*, for a word may be any of the parts of speech. It is not its being merely added to a noun or pronoun, for, in composition, *kind* may be added to the noun *man*, as in *mankind*, and not be an adjective ; or, in relation, *lives* may be added to the pronoun *he*, as in *he lives*, and yet *lives* is no adjective ; and so on indefinitely. What is it, then, that distinctly constitutes a term an adjective ? Clearly, its function as modifying or limiting the signification of the noun or pronoun. Take now the expressions, *a wise man*, *a man of wisdom*, or *a man who is wise*, and what is the office of each of the terms *wise*, *of wisdom*, and *who is wise*, other than that of modifying or limiting the signification of the noun *man* ?

Why are they not all, then, substantially adjectives? Oh! but they do not all accord with the phraseology of the definition, "an adjective is a word added," etc. What of that? Definitions are generally framed to suit the simpler and more radical forms of things, and for the sake of simplicity and generality; not at all because they are to exclude from the resultant classification all of the derived complex forms. A beam is "any large piece of timber, long in proportion to its thickness, and squared or hewed for use." Is, then, a "built-beam, which may be solid, consisting of several layers of timber laid in juxtaposition, and firmly connected together by iron bolts or straps," no beam at all, simply because it is not a single stick of timber? The truth is (has the author of that article ever learned it?) *elementary definitions must be general and adapted only to the radical forms or species*, under which the derived forms or species range themselves as modified subdivisions.

Suppose that the sentence is defined as "an assemblage of words so combined as to assert an entire proposition," what is the head and front of Mr. Clark's offending? Simply that as a clear practical thinker, he has given a practicable definition of the radical form or species of sentence, leaving the specific derived forms to be provided for as such. Hence, those derived forms, whether interrogative, conditional, imperative, or exclamatory, containing as they do substantially the same principal elements, and susceptible of reduction to the radical form as they are, are not ruled out of the category of the sentence at all, but are simply set further along in the classification as subordinates. Define a sentence according to the demand of the article in question, and we should have a monstrosity like the following: A sentence is an assemblage of words, or of words and phrases, or of words and sentences, or of words, phrases, and sentences, so combined as to express an affirmation, or an interrogation, or a supposition, or a command, or all five, and each either actual or potential, or positive and negative, and so on through all the possible complications of a periodic thought. But what sort of sense or science would this be?

As to the queries propounded, relative to the adverbial sentence, "before Cæsar had passed the Rubicon," and the relative pronouns in the adjective sentences, "to whom I gave it," and "for which I gave it," they evince an ignorance of analysis and an obliviousness of the necessary principles of substitution and representation, which would be past endurance and beyond explanation, were it not for the knowledge that the exclusive study of grammar according to the current etymological system and method, not only precludes the discovery of these higher truths, but tends also to such a practical paralysis of the logical faculty, as puts the more superficial minds beyond the power of comprehending them when demonstratively presented. It were easy to show that the conclusions reached in these instances, are not even "logical absurdities," but are mere illogical and absurd dicta. My space, however, does not allow me to undertake that work. I am similarly cut off from exposing the ignorance evinced with regard to Clark's diagrams, and the gross misrepresentation to which they are subjected. How much confidence can be reposed in what is urged against them, in the article in question, may be seen from what has already been shown with regard to its self-consistency, candor, and astuteness on these other points.

F. S. J.

## MORE TROUBLES.

**MR. EDITOR**—To you, as an instructor of the public, I turn for information, and, I may add, counsel. I am in trouble, and know not where else to look for aid. My mind is so distracted that I can hardly state my case clearly. But bear with me while I “unfold a tale” as perplexing to me, if not as harrowing, as that related to the royal Dane on the midnight watch.

In the innocence of my heart I advertised to open a private school for mathematics and the higher English branches. I specified those studies to which particular attention would be paid, and announced in the plainest terms that my object was to give my pupils simply a thorough, practical English training. Instantly I was thronged; in the expressive language of Scripture, I was “beset behind and before” by applicants as teachers of all the things I did not intend should be taught in my school. The courteous but firm reply, “Mine is to be an English school,” was of little avail. I have rejected a host of professors of French, Italian, Spanish, and Latin, though it almost broke my heart to do so. Not that I wanted their services, but they were all such excellent teachers. Each had a system very much superior to any other. Some had so perfected their plans that no time was necessary, except the hour devoted to the lesson, to enable pupils to speak a language fluently and correctly; and to prove the truth of their assertions, the applicants would at once begin to talk most glibly in the particular language they desired to teach. Such knowledge was too wonderful for me. Like Gough, I understand one Latin word, and that is “*ignoramus*.” “*On ici parle Français*” is tolerably familiar to me, as I have so often seen it in windows of fancy stores; though for a long time, having heard so much of the superior comprehensiveness of the French, I supposed its meaning to be “Here no one parleys about price. We sell much lower than our neighbors. On! on to the French store and get a bargain.” In Italian I had learned to pronounce “*Divina Comedia*,” and having in childhood found in the geography that “*Rio de la Plata*” means “River of Silver,” and “*Terra del Fuego*” “Land of Fire,” I felt competent to give necessary instruction in these languages myself.

But the drawing and painting teachers talked so eloquently! I was sorry Rosa Bonheur could not hear them. To my uninitiated ear, their terms—with all respect be it said—were something of a jargon. But I looked wise and tried to commend, when they were trying to explain to me the superiority of their new methods.

Then the books that are sent me for examination! The postman comes with a market-basket on his arm. The express-man said to me the other day, as he leaned back, squinted one eye, and dexterously snapped a fly from the left ear of his horse, “Pretty good customer, ma’am. Them horses of mine stop here as regular’s if I was a milkman.”

I tremble at the ringing of the door-bell, and actually ran up to the attic as a peddler of vases and plaster images stopped at the door, fearing that he might be a teacher of a new system of drawing, with models for my inspection. I am getting restless and losing my appetite. What if I am wrong in thinking an English education the best thing for an Ameri-

can girl—in believing that the language of Shakespeare, and Milton, and Prescott, and Irving, has richness enough to require years of research, and more than enough to compensate for any labor bestowed upon its study? Is it better that a young lady should sing Italian and translate into execrable English—that she read the Vision of Dante in the original, and be ignorant of the fate of Ophelia, and unmoved by the touching lament of Lear?

If I am right, will the public sentiment sustain me? Or, what troubles me far more, shall I be permitted to conduct my English school after my own plan? If Mrs. Boffin chooses "to go in for fashion," I am perfectly willing; but let her leave the good old ways to those who differ. I think of adding to my advertisement a postscript in capitals, with the largest-sized N. B. before it, "English is the language of this school."

Now, if you have any counsel for me in my emergency, you will confer an inestimable favor by giving it as soon as you can, and thus oblige and perhaps save from insanity

Yours, distractedly,

E. A. C.

### A QUESTION IN PARSING.

FLUSHING, L. I., Oct. 9th, 1864.

MR. EDITOR—I observe that, in your notice of Welch's Analysis in the MONTHLY for October, you object to Mr. W.'s calling *who* an interrogative pronoun in the sentence, "I know who troubles you." He is not alone in this. Quackenbos, Eng. Gr., p. 68, calls it an "interrogative." Kerl, Com. Sch. Gr., p. 79, says it may, "in such cases, be called a responsive pronoun, or an indirect *interrogative* pronoun." Greene, Elements Eng. Gr., p. 49, Rem. 2, also calls it "an indefinite *interrogative* pronoun." Bullions, too, Lat. Gr., p. 79, Obs. 1, says, "All *interrogative* pronouns used in a dependent clause, and without a question, are indefinites." As an example he gives, "*Qui* sit aperit [*qui*, euphonic for *quis* (?)], he shows *who* he is." The word is certainly not a "relative" pronoun, as you suppose. It is not equivalent to *who* in the sentence, "I know not the man who troubles you;" where *who* evidently relates to *man* and serves to connect the two clauses. In the sentence you quote from Welch, *who* introduces the interrogative clause "who troubles you?" embodied in another sentence in such a way as to form the object of a transitive verb.

Hart, Eng. Gr., p. 58, and Bullions, Eng. Gr., p. 25, Obs. 4, call *who* in such a sentence "a responsive" (as indeed Mr. Welch does on p. 55), as though it was used thus only in answering a question. But it may be used as well in *asking* a question; as, "Do you know *who* speaks to-night?" "Do you know *who* he is?" For this reason, I think "indirect interrogative" the preferable name of the two, if not the correct one.

What is thus said of *who* may, of course, with equal propriety be said of the other interrogatives—*what* and *which*—in sentences like the following: "I know not *what* thou sayest;" "Have you any idea *what* became of it?" "I told him *which* of the books to get;" "He soon found *which* was the best." *What* in such instances can not be replaced

by *that*, *which*, or *the thing which*, as it may where it is used as a so-called "relative."

Foreigners, before becoming accustomed to our idioms, almost invariably use the *interrogative* form, in using these words, even when the idiomatic form is *declarative*; as, "Do you know *what is that man's name?*" instead of "Do you know *what that man's name is?*" This would seem to indicate that to their minds, *who*, *what*, and *which* are not, in such cases, "relatives," but "interrogatives."

Very truly, yours, etc., S. W. WHITNEY.

## SCIENCE AND THE ARTS.

—Löwe has described a new sulphid of carbon obtained by the action of sodium amalgam upon the bisulphid. The semi-fluid amalgam is shaken with bisulphid of carbon in a well-corked bottle, the temperature of the mixture rises, and the process is complete when, after repeated additions of the bisulphid, heat is no longer evolved. If the mixture be then thrown into water, a blood-red solution is formed, which after filtration contains much mercury, which is to be removed by passing sulphuretted hydrogen through the solution. The solution, after filtration, is to be poured into dilute hydrochloric acid with constant stirring. A flocky red precipitate is separated which aggregates to a tough resin, while much sulphuretted hydrogen is given off. The resinous mass is to be continuously washed with hot water as long as the odor of the hydrosulphuric acid is perceptible. On cooling it becomes brittle, and yields a violet-brown powder which may be purified by solution in bisulphid of carbon, filtration, and evaporation. Analysis gives for this new body the formula  $C_2S_3H$ . Löwe regards the body  $C_2S_3$  as a radical analogous to cyanogen or ethyl.

—Professor Thomsen, of Copenhagen, gives the following as the result of his investigations to determine the mechanical equivalent of light: A flame, the light of which is equal in intensity to that of a candle which consumes 8.2 grammes of spermaceti per hour, evolves per minute in the form of light a quantity of heat which would raise 4.1 grammes of water one degree centigrade. The mechanical equivalent of light reduced to mechanical measure may then be expressed as follows: The unit of work per second, or one kilogramme raised to the height of one meter per second, is equal to that contained in the rays of light which proceed per second from a source of light the intensity of which is 34.9 times as great as that evolved in a candle which consumes 8.2 grains of spermaceti per hour. This Prof. Gibbs (*Silliman's Journal*) regards as the maximum of the mechanical equivalent of light, and it may be reduced by later researches. Prof. Thomsen proposes to continue his investigations, using light of greater intensity.

—It appears that Canada is no longer entitled to be considered as the sole depository of the earliest fossil. Recent researches made by Prof. Hochstetter, of Vienna, have resulted in the discovery, in the calcareous limestone of the Krummau, of undoubted specimens of Eozoon, in all respects similar to those found in Canada.

## EDUCATIONAL INTELLIGENCE.

## EASTERN STATES.

**VERMONT.**—The University of Vermont and State Agricultural College has made arrangements for three new professorships and added materially to the philosophical apparatus, the collection of natural objects, and other means of illustration.

—On Commencement day Pres. Sears, of Brown University, announced that \$100,000 had been, during the last year, presented to the college by a donation of \$20,000 each from William Sprague, William S. Slater, Earl P. Mason, William H. Reynolds, Horatio N. Slater; and donations had also been received from Alumni residing in Massachusetts, amounting in all to \$50,000. The donations from Massachusetts were made with the expectation that \$100,000 in addition to the sums mentioned above would be subscribed by the Alumni and friends of the college, making a total of \$250,000.

**MASSACHUSETTS.**—The whole number of graduates of Amherst College, for the forty-five years of its existence, has been 1681, of whom 697 have been ministers, and 70 foreign missionaries. 158 of her graduates and students were in the national service; 26 died in the war.

—At a recent meeting of the trustees of the Massachusetts State Agricultural College, it was voted to adhere to the selection of Amherst as the location of the college, and steps were taken for the erection of the buildings, which are not to cost over \$50,000. The injunction restraining the town of Amherst from contributing \$50,000 for the institution remains to be removed, however, before the building can go on.

—The new triennial catalogue of Harvard college contains the names of 7,786 graduates, of whom 2,778 or 36 per cent. are supposed to be living. All the Alumni are dead from 1642 until 1796, except Judge Samuel Thacher, of the class of 1793.

—There are now over twenty-two thousand volumes in the Springfield City Library.

## MIDDLE STATES.

**NEW YORK.**—The trustees of Cornell University, Ithaca, N. Y., have concluded a contract for the construction of their first college building. It is to be a dormitory, 145 feet long, 50 broad, four stories above basement, entirely of stone; cost \$57,425. It is designed to afford the requisite facilities for one hundred students, and to be completed by June 30, 1867. The Agricultural Department may be opened next fall.

—According to the twenty-fourth annual report of the Board of Education, there are in New York city 268 schools, including the Free Academy, Normal schools, Gram-

mar Schools, Primary, Colored, Corporate and Asylum schools, and Evening schools.

During the year ending Dec. 31, 1865, \$2,398,508 55 were deposited with the City Chamberlain for the purposes of education. The expenditure may be summed up as follows: Amount paid the City Chamberlain over draft in warrants issued in 1864, \$86,533 77; salaries to teachers, janitors and officers, \$1,482,177 84; support of Normal Schools, \$4,781 33; rent of school premises and apportionment to corporate schools, and pianos for ward schools, \$57,808 71; payments for building and repairing in ward schools prior to and during 1865, \$311,189 78. This makes the total payments \$2,877,988 69, which leaves an excess in warrants issued to be provided for from the fund of next year of \$79,480 11.

The total number of scholars taught in these schools under the control of the Board of Education, and also the corporate schools, amounted during 1864 to 218,054.

In the year 1865 the total attendance at all the schools, including the Free Academy and the Normal, was 219,749, showing an increase over the previous year of 11,665.

The State School Tax paid by this city for the past twelve years, and the large proportion not returned, was as follows: Amount paid, \$4,851,807 09; the amount apportioned to this county by the State during the same period, \$2,594,491 05; amount retained by the State Government for distribution in other counties, \$2,256,816 04. In the year 1856—ten years since—the total educational expenditure of this city amounted to \$961,885 75.

Some idea of the magnitude of the evening schools may be gained from the fact that in the twenty-first ward two such schools have been opened for the ensuing winter, one with forty-five and the other with 58 teachers.

—The seventh annual report of the Cooper Union of New York city has just been issued. This institution was established by Peter Cooper. The original cost of the property as received by the trustees from him was \$630,000, and since it came into their possession there have been expended \$166,191, making the total cost thus far \$796,191, all of which, excepting \$1600, has been derived either from the founder or the revenues of the property. The institution includes a free night school for males and females, in which algebra, geometry, descriptive and analytical geometry, calculus, theoretical and practical mechanics, natural philosophy, and chemistry are taught; a school of art and a school of design for women. Twenty-seven instructors are employed in the various schools. The number of pupils who entered the night school was 1571, of whom 958 remained until the close of the

school year. Five students, having completed the five years' course of study, graduated this summer. The School of Design for Women was attended by 200 pupils. The free school of music had 400 pupils. Attached to the Union is a free library and reading-room, visited last year by 201,760 readers. The total expenditure for the year was \$28,658 07.

**NEW JERSEY.**—Gen. N. N. Halstead, of Newark, whose noble liberality in relation to the College Observatory at Princeton is well known, has contracted for the purchase of a lot adjoining the Observatory lot, for \$3,500, with a view of enlarging the College grounds, and probably for the erection of a building contemplated for the scientific department of the College.

### WESTERN STATES.

**MISSOURI.**—The late H. Ames, of St. Louis, left by will \$100,000 to the O'Fallon Institute—an institution of learning resembling the Cooper Institute of New York.

—One thousand acres of excellent land has been purchased and laid out, about one hundred and thirty miles below St. Louis, for an industrial orphan agricultural farm school. It abounds with fruit, timber, and coal.

**KENTUCKY.**—The Freedmen have thirty schools, with an attendance of 2,828 scholars.

**KANSAS.**—We take the following from one of our exchanges:

"A novel, and yet very worthy educational enterprise has been set on foot in Kansas, having for its object the establishment of an Industrial University for the Indians of our Western tribes. The project originated with the Ottawas, who are a partially civilized tribe, living on a magnificent reservation of land lying about twenty-five miles due south of Lawrence. Their chief, Mr. John Jones, is a thoroughly educated man, having a very intelligent white woman, who was originally a missionary, for his wife. They have both devoted their lives to the protection and elevation of the Indians. By a treaty consummated two or three years since, the Ottawas donated twenty thousand acres of land from the center of their rich reservation for the establishing of this University. Six hundred and forty acres of it are to be devoted to a farm connected with the institution, and are inalienable. The children of the Ottawas, no matter whatever part of the country they may have removed to, are to be perpetually entitled to education in the University. Its advantages are also to be extended to the other tribes of the West who may desire to enjoy them. Mr. Jones, the Ottawa Chief, has associated with him several other gentlemen, including the Rev. Mr. Hutchinson, the Government Indian Agent for the Ottawas, and they have al-

ready established a fine village of 1200 inhabitants on the land donated for the University, have built a church and a school house, established a weekly newspaper, and founded a flourishing community. They are now engaged in erecting one of the University buildings, designed to accommodate some fifty pupils."

### SOUTHERN STATES.

**DISTRICT OF COLUMBIA.**—The Commissioner of the General Land Office reports 2152 acres located in Nebraska during August by agricultural scrip; also 18,720 acres in Minnesota during the same month.

—J. W. Alvord, Esq., Inspector of Schools and Finances of the Freedmen's Bureau, has submitted to the Commissioner his semi-annual report of the condition of the Freedmen's Schools in the United States. It represents that the total number of schools, exclusive of night schools, Sabbath, and private schools, in all the districts of the Bureau, is 975. The total number of teachers employed is 1,405; and the total number of pupils receiving tuition is 90,778. The State of Virginia is in advance of all the others in Freedmen's Schools, the number reported being 123 schools, 200 teachers, and 11,784 scholars. The Inspector says, in reference to the subject: "Amid all the embarrassment of these past months, the schools have steadily gained in numbers, attainment, and general influence. This is true, with a good degree of sameness, over all the States except Louisiana, where special causes have temporarily paralyzed our efforts. Teachers generally are becoming more apt and skillful in their instructions, and the rapid progress of pupils hitherto noticed, continues. The Associations of the North are increasing their patronage and funds, and concentrating their means in Central Agencies which promise greater economy and efficiency, and are now ready, with fresh hope, to co-operate heartily with the Bureau."

**SOUTH CAROLINA.**—Gov. Orr, in a special message, has recommended to the Legislature the acceptance by the State of the provisions of the Act of Congress of 1863, donating lands to States and Territories for establishing agricultural colleges. He intimates that the State can realize \$150,000 from the sale of scrip.

—President Johnson is said to have given Bishop Potter his check for \$1000, to increase the funds of the South Carolina Theological Institute.

**TEXAS.**—The following from the *Houston Telegraph* shows that the people of this State are more keenly alive to their interests than most of their neighbors. Referring to a recent outrageous attack upon a freedmen's teacher in Louisiana, it says:

"The attack, beating, kicking, and drag-

ging of Mr. Ruby seems to be entirely without excuse. He had but newly arrived, and his only offense was that of instructing his fellow-people of color. Yet his treatment was most cruel. A great many of these outrages have occurred in Louisiana. We are glad to know that the people of Texas have been much kinder to the colored school teachers, and while we could wish there was less prejudice toward them, still we congratulate ourselves that Texans have not disgraced themselves as have the people of Louisiana.

"We are beginning to recognize the fact that our comfort and perhaps our safety demand that the negro be educated and raised above his present abject condition. We believe that no personal violence has been offered to any teacher under the Bureau, either white or black. This argues for us a higher state of civilization than our neighbors enjoy. We believe that the colored schools of Texas are the most prosperous of those established in the Southern States. They are conducted without expense to the Government, being entirely supported by the blacks themselves."

—Governor Throckmorton, in his recent message, does not represent the condition of the State educational fund as at all encouraging.

#### FOREIGN INTELLIGENCE.

IRELAND.—The twenty-third report of the Commissioners of Education announces

that at the close of the year 1865 the number of schools in operation was 6,372, the average daily attendance of children was 321,309, and the average number on the rolls 598,408. There was an increase of 109 schools over the year 1864, and an increase in the daily attendance of 6,101. There are 45 national school houses in course of erection, and the model school. Of a total number of 675,335 pupils on the rolls of national schools for quarter ending 31st December, 1865, 551,006 were Roman Catholics, 45,026 Established Church, 74,424 Presbyterian, and 4,869 other persuasions. The total amount of salaries, etc., paid to teachers, assistants, monitors, and work-mistresses in national schools during 1865, was £252,248 18s. 2d. The total amount of receipts from all quarters during the past year, including a balance of £17,897 18s. 8d. in hand on the 31st December, 1864, was £269,594 7s. 10d., and the total amount of expenditures by the commissioners, £249,637 2s. 8d., leaving a balance in hand of £19,957 6s. 2d.

THE JEWS.—The Jews in Russia, and in the East, are reviving attention to education, and improving in all branches of learning. In Germany, a great agricultural school is in operation, in which many young Jews of wealth and station are studying the sciences, and learning practical operations in farming, with a view of applying their knowledge and skill to the soil of Palestine.

#### CURRENT PUBLICATIONS.

GENERALLY we take up a primary school-book without expecting to find much in it that is new, or an improvement on other books of the same class. And we are not often disappointed. But we find an exception in the little book<sup>1</sup> before us. This, if we mistake not, possesses features which will commend it to both teachers and parents. As in most primary arithmetics, numbers are first presented in connection with pictures; and the author is right in saying that these will cultivate the taste of the child and impart useful knowledge, besides assisting him in his first steps in numbers." The illustrations are really excellent, and in this respect the work differs materially from most books of the kind. Equal care seems to have been

exercised in the construction of the examples. It is hardly possible that a child can study these without acquiring, in addition to the knowledge of numbers gained, an amount of useful information, not often found in elementary arithmetics.

The book possesses the further merit of being simple, and in no part too difficult for those for whom it was written.

The "Manual of Methods and Suggestions," occupying the last thirteen pages, contains hints that will be of use to most teachers of beginners.

Capt. Boynton,<sup>2</sup> having official access to records and possessing many advantages for obtaining correct information, has given

(1) FRENCH'S FIRST LESSONS IN NUMBERS. New York: Harper & Bros. Price 40c.

(2) HISTORY OF WEST POINT, and the Origin and Progress of the United States Military Academy. By Capt. ED. C. BOYNTON, A.M., Adjutant of the Academy. New York: D. Van Nostrand. 8vo. pp. 408. \$3.00.



a history of West Point, and the Military Academy, which may be regarded as authentic.

West Point being the key to the upper Hudson, and commanding all communication between New England and the West, its importance as a military station was early recognized; and in the Revolutionary war, both the contending parties made strenuous attempts to secure it. In 1775, the Point and Martelaer's Rock, opposite, were appropriated by the Federal Congress, with consent of the Provincial Congress of New York, and fortifications were erected. The British plan of concentrating their forces at Albany and New York, and parolling the river with sloops and cutters, was thus frustrated. In 1778, by order of Congress, a chain and boom of prodigious strength were stretched across the river, which at this point is only fourteen hundred feet wide, and moves very sluggishly. The boom was formed of huge logs, 18 ft. long and 15 in. in diameter, united by an iron rod on each end, and a chain of two-inch iron in the middle. According to the bill of the contractors, 186 tons of iron were brought into bolts, chains, swivels, and rods for this boom. The chain was equally massive, and is said to have weighed 186 tons. The average weight of the links which now remain is 114 lbs.

Capt. Boynton's account of Arnold's reason is well told, and is more detailed than that generally given, the letters found upon Andre, and the proceedings of the court-martial in the case of that unfortunate young man, being fully reproduced. These documents tend to place Andre in the most favorable light, and serve to increase our detestation of Arnold's ingratitude.

The necessity of a military academy appears to have been conceded at a very early period, for we find that in October, 1776, the Federal Congress appointed a committee of five to prepare a plan of such an institution. This committee never reported, and the academy was not formally established until 1802. In 1838 it was organized upon its present basis. Capt. Boynton gives details respecting the course and methods of instruction, showing that in grade, as a polytechnic school, the Military School is equal to any in America or Europe. Himself a graduate, he may be pardoned for his excessive admiration of

the institution. The "History of West Point" is pleasantly written, and deals less in statistical detail than might be expected. The frank admission in the Preface restrains us from criticising its literary merits. It is well illustrated with maps and plates, and the frontispiece is an elegant lithograph of large size, representing the West Point of 1780.

The study of international law has never obtained its proper place in the college curriculum, partly because its importance is not appreciated, and partly, perhaps, because the text-books in general use are ill-adapted to their purpose. This should not be so. The subject is practically far more important than the speculations in metaphysics, which are so carefully studied. Most of the ordinary text-books should be discarded, and works of a different character substituted. Gen. Halleck's abridgment of his larger treatise is a decided advance upon its predecessors. In comprehensive grasp, in terseness of style, and vigorous common sense it is far superior to any kindred work. Besides the topics usually discussed it contains a careful analysis of the laws of war. The necessity of this division was demonstrated by the ignorance of even our educated men during our late civil war. The author is afflicted by no morbid feeling of pity for the student. No cursory perusal will suffice for the preparation of a lesson; hard study will be essential. Indeed, the conciseness of the style will be found the only obstacle to its introduction; but this, so far from being a fault, is truly a virtue, and our book-wrights would do well to give us similar works on other topics.

Of the many popular works on natural history, comparatively few possess any great degree of merit. To the few, Mr. Wood has added one which must take a high place. Assuming little previous knowledge on the part of the reader, he classifies animals according to their methods of constructing habitations. Thus we have the burrowers; those that suspend their homes in the air;

(3) *ELEMENTS OF INTERNATIONAL LAW AND LAWS OF WAR.* By H. W. HALLECK, LL.D. Philadelphia: J. B. Lippincott & Co. 12mo, pp. 380.

(4) *HOWES WITHOUT HANDS.* Being a Description of the Habitations of Animals. Classified according to their Principle of Construction. By the Rev. J. G. WOOD, M. A., F.L.S. New York: Harper & Bros. 8vo. pp. 631. \$4.00.

those that are real builders; those that make their habitations under the water; parasites; those that build on branches; and in the last chapter, miscellanea, or those that can not well be classed in the preceding groups. While the main object of "Homes Without Hands" is to describe the various habitations of animals, the work is full of interesting details concerning the habits of the occupants. In these Mr. Wood is careful to distinguish between fact and mere romance, so that in several places he ruthlessly destroys many notions cherished by us from childhood. We had regarded the owl and rattlesnake as the bosom friends and welcome house-mates of the prairie dog, with which they formed a happy family. To our utter disappointment Mr. Wood denounces them as heartless intruders, devourers, seeking free board and lodgings. We were always overcome with admiration as we contemplated the self-sacrificing devotion of the rabbit and eider duck in stripping off their fur and down to provide comfortable resting-places for their young. But Mr. Wood is not romantic; he admires no such thing; he does not believe it. He maintains that these animals would undergo more self-denial if they should disobey their instinct, for so he terms the devotion, and asserts that the skin of the rabbit gives no evidence of irritation or inflammation after the plucking out of the fur.

"Homes Without Hands" is a work of rare merit. To overpraise it would be difficult. We have read it through, and have begun it a second time. We found not one page uninteresting or wanting in truly useful information. It contains many statements which if properly studied by agriculturists might be productive of great advantage to themselves as well as to the animals.

Elizabeth Twining's "Plant World" is a strange book, not because of its subject but because of the manner of treating it. Never before have we seen a work on scientific matters so thoroughly suited to the wants of that large class of readers, who are neither children nor adults. The author aims to give general information concerning the structure and uses of plants, rather

than to impart purely technical knowledge, and is successful. The moral teachings conveyed on each page are excellent and unobtrusive. On the whole the language is well chosen, though "these kind" and other equally objectionable expressions sometimes occur. The book has been published in elegant style, and is embellished with several illustrations in oil colors.

The main lack in the many pretentious biographies of President Lincoln is that they tell us little of the man. From the periodicals we know Lincoln the lawyer, politician, and President; from the biographer we seek a knowledge of Lincoln as he was in his family and among his friends. In his little volume Mr. Carpenter gives the desired supplement. Wishing to produce a painting commemorative of the Proclamation of Emancipation, the author obtained permission to visit the White House, where he remained for six months. His book is not a biography, but a collection of incidents calculated "to portray the man, without any attempt at idealization." It contains also numerous historical scraps not generally known, among which is an interesting account of the Proclamation of Emancipation and the causes which led to it, received directly from Mr. Lincoln himself. The book is written in a style of undisguised affection and enthusiasm which renders it almost fascinating.

"Royal Truths" is the title of a book which is made up from Henry Ward Beecher's published sermons, of such extracts as are fitted for standing alone. The history of the book has been given by the daily press. It was first published in London, without Mr. Beecher's knowledge. The selections are short and can be read when most books would not be taken up.

"The Kemptons" is a well-written temperance story for the young. It is properly called "a tale of truth." Without improbable statements, it will hold the attention of the reader from the first chapter to the end. Teachers who make presents to their

(5) THE PLANT WORLD. By ELIZABETH TWINING. London and New York: T. Nelson & Sons. 12mo. pp. 414. \$2.50.

(6) SIX MONTHS IN THE WHITE HOUSE WITH ABRAHAM LINCOLN. By F. B. Carpenter. New York: Hurd & Houghton. 16mo, pp. 358. \$2.00.

(7) TICKNOR & FIELDS, Boston. \$1.75.

(8) M. W. DODD, Publisher, New York. \$1.25.

pupils would do well to select such books as this.

The same publisher\* has issued a very pleasant story by Mrs. Lamb, entitled *Capt. Christie's Granddaughter*. This, too, is a well written moral tale for the young, and is worthy a place on the teachers' list of gift books.

Dr. Trall's book on *Sexual Physiology*\*\* certainly gives evidence of much study, but whether profitable or not, those more familiar than we with medical matters must decide. The work is in a new direction, and discusses many subjects little noticed in most physiological treatises. It contains several novel theories upon the "law of sex." That of Sixt, which the author adopts, is quite well supported by facts, though, upon the whole, we cannot perceive that it is better substantiated than that of Thury, some time since published in *Silliman's Journal*. The chapter on "Regulation of the Number of Offspring" is rather eccentric, and, seeing that the work is intended for popular reading, contains some information which might have been omitted without injury. The chapter on "Philosophy of Marriage" is in several portions preposterous, and is out of place in a scientific treatise. Taken as a whole, this is the best work on esoteric man yet published for general circulation. However, no previous work that we have seen is worth reading.

Mr. Moens, who has gained a wide celebrity by his experience among the Italian brigands, has published an account† of his captivity. Aside from our interest in the author's afflictions, we find much that is attractive in the book. The information respecting the brigands, their manner of life, their opposition to the existing kingdom, and the disposition of the peasants, is worthy of note, and is entirely novel.

By the first series of "Spare Hours"‡ Dr. Brown fairly established his reputation as

one of our most pleasing writers. His essays resemble those of the "Country Parson," but have less egotism, and are more instructive. Of the second series, some are practical, as the "Lay Sermons on Health;" others are anecdotes, well told and with excellent morals. The essay on Bibliomania, by J. S. Brown, is an able defence of a much ridiculed and equally wronged class. The "Jacobite Household" is a bit of domestic history illustrating Scottish life in the eighteenth century. It is well for Dr. Brown that his essays contain so much real worth, otherwise they would not be tolerated. The style is in utter defiance of all rhetorical and grammatical rules, and abounds in barbarisms of the worst kind. But these essays were evidently written without thought of critics or care for them, and we can only add our testimony in behalf of their sterling worth.

Mr. Babbitt's system§ of teaching penmanship seems to be eminently simple and practicable. He reduces the art to a few simple elements, and provides a systematic drill on these, avoiding every unnecessary mark and combination. With each copy are examples of errors which pupils are likely to fall into, while the accompanying explanations show how they are to be corrected and avoided. The plan is a good one; so too is that of having the copies on detached slips. With these the pupil can have his copy always before him, and next the line he is writing; and unless the teacher is very remiss, can never fall into the common habit of neglecting the copy and following his own writing after two or three lines have been written on a page. The plan of giving on the back of each slip a printed verse or note, or business form for the pupil to write, is also good, since it prevents the writing exercise from becoming one of mere imitation.

For the most part, the copies are well written and engraved. The principal faults noticed are too heavy shading of capitals, and an occasional attempt at originality which does not always result in an improvement on the simple and graceful letters of the elder Spencer. Legibility, however, is made a cardinal virtue of the system; and generally every line is cut off that does not tend to accomplish that end.

(9) M. W. DODD, Publisher, New York. \$1.25.

(10) SEXUAL PHYSIOLOGY. By R. T. TRALL, M.D. New York: Miller, Wood & Co. 12mo, pp. 312. \$2.00.

(11) ENGLISH TRAVELERS AND ITALIAN BRIGANDE. By W. J. C. MOENS. New York: Harper & Bros. 12mo, pp. 355. \$1.75.

(12) SPARE HOURS. By JOHN BROWN, M.D. Second Series. Boston: Tickner & Fields. 16mo, pp. 426.

(13) BABBITTIAN PENMANSHIP. New York: E. D. BABBITT & Co. Price \$1.50.

The *American Journal of Science and Arts* for September is more than usually interesting. C. M. Warren continues his new method of Organic Analysis; Mr. Lea contributes a valuable article on the Action of Light upon Iodid of Silver. Profs. Bache, Newberry, Gray, Dana, Smith, Clark, Dewy, and Shepard also contribute to the number. The "Scientific Intelligence" is hardly as full as usual.

The recent improvements in our worthy contemporary, the *Herald of Health*,<sup>14</sup> are

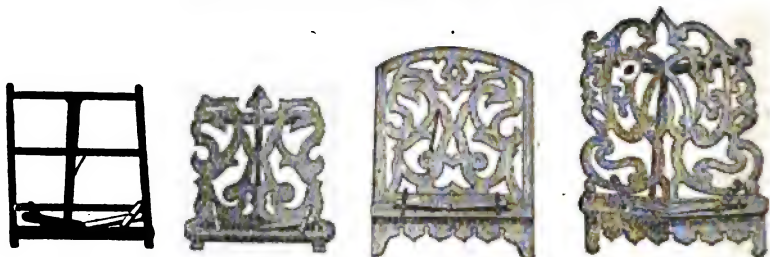
(14) THE HERALD OF HEALTH, AND JOURNAL OF PHYSICAL CULTURE. New York: Miller, Wood & Co. Price per annum, \$2.

well sustained. It can now boast a list of contributors on subjects pertaining to its specialty—Physical Culture—unexcelled by any magazine in the country.

Among the many excellent agricultural papers, one, *The Rural American*,<sup>15</sup> aspires to be of national character. How well it maintains such a position, those acquainted with agricultural matters must decide. It is evident, however, that no farmer's family can read it without deriving benefit more than equal to the price of subscription.

(15) THE RURAL AMERICAN. Utica, N. Y.: T. B. Miner. Price per year, \$1.50.

## INVENTIONS FOR SCHOOLS.



NE PLUS ULTRA BOOK-HOLDERS.

EVERY one that has attempted to follow the advice of Jeffrey—always to read with pen in hand—has had occasion to regret that the great reviewer neglected to tell how he managed to hold his books while his hands were employed with pen and paper. Certain it is that one cannot long continue his method of reading—excellent though it be—without so severely taxing his patience and the muscles of his back as to make him covet at least one extra pair of the multitudinous hands of Briareus.

The thousand and one contrivances of wood, and leather, and wire, that have been devised for holding books open at such an angle that they may be easily read, and yet leave the reader's hands free to use a pen or pencil, are evidences of a popular want; and, for the most part, are unsuccessful attempts to meet it.

It would seem that every possible condition of cost and beauty and finish had been met, time and again; but the one great desideratum, something to hold a book of

any size, firmly and smoothly open at any page, no matter how thick or thin either side may be, seems to have been left for Mr. D. J. Stagg, of this city, to devise. His recent invention, "The *Ne Plus Ultra* Adjustable Fingers," despite their clumsy name, are a clever contrivance for accomplishing with great simplicity and neatness the end desired. The cuts show some of the various styles of book-holders which he makes.

The "fingers" work independent of each other, so that it does not matter where the book is opened; it will be held smoothly and firmly in place at any page. We have seen and tried many styles of book holders, but none so simple and convenient as these. Some style of them should be on every reading-stand, and attached to every school-desk. It is useless to expect children to sit erect in school so long as their books lie flat upon the desk. Stand their books up so that they can be read without stooping, and then we may reasonably require them to maintain a proper position.

## INTERESTING TO LADIES.

Following extracts are from the testimony, taken at St. Louis, in a recent case pending before the United States District Office, upon the actual merits of the GROVER & BAKER MACHINE, and its relative merits as compared with other machines.

Dr. McCready says:

I have used, for nine years, a GROVER & BAKER MACHINE, upon it I have done all kinds of family sewing for the children and husband, besides a great deal of work, as braiding, quilting, and embroidering. At all that time my machine has never needed repair, and when I had the tension altered, and it is as good now as was the first day I bought it."

I am acquainted with the work of all the principal makers, including Wheeler & Wilson's, Finkle & Lyon's, Wilt & Gibbs's, Ladd & Webster's, the Florence machines, Host's machines, besides a number of ten dollar ones; I prefer the Grover & Baker to them all, because I consider the stitch more elastic. I have worked now in the machine which was done nine years ago, which is still good; I have never found any of my friends who have used other machines able to say the same thing."

Dr. Whiting gives the following reasons for the superiority of the Grover & Baker Machines over all others: The elasticity of the stitch, and ripping when it is needed; and also the stitch fastening itself, as you leave off; also the machine may be used for embroidering purposes; and therein consists the superiority over other machines.

The stitch will not break when stretched, as the others do, and neither does it draw the work.

I find this stitch will wear as long as the garments do—wear the garments, in fact.

I can use it from the thickest woolen cloth to Nansook Lin."

Mrs. Alice D. Whipple, wife of Rev. Mr. Whipple, Secretary of the American Missionary Association, testifies:

—As the result of your observation and experience, which machine do you think best as a general family instrument?

—The Grover & Baker, decidedly.

—State the reasons, such of them as occur to you, for your opinion.

—I think the stitch is a stronger stitch than that of any other machine I have used, and it seems to me much simpler in its management than other machines; one great advantage is the ease with which the seam is ripped when necessary to do so; and I think that the work, by an unskilled person, on a Grover & Baker Machine, is better than the work of such person on any other machine; it gives more skill to work other machines than the Grover & Baker.

Mrs. General Baell says she prefers the Grover & Baker Machine over all others.

On account of its durability of work, elasticity of stitch, strength of stitch. It never rips.

It is preferred over all others; it is very easy in its movements, and very easily adjusted, and very simple in its construction.

We can accomplish more in one week, by this sewing machine, than we can in a month by hand-sewing."

Mrs. Dr. Watts says:

"I have had several years' experience with a Grover & Baker Machine, which has given me great satisfaction. Its chief merit is that it makes a strong elastic stitch; it is very easily kept in order, and worked without much fatigue, which I think is a very great recommendation. I am not very familiar with any other machine, except a Wheeler & Wilson, which I have had. I think the Grover & Baker Machine is more easily managed, and less liable to get out of order. I prefer the Grover & Baker, decidedly."

Mrs. A. B. Spooner says:

"I answer conscientiously, I believe it to be the best, all things considered, of any that I have known.

"In the first place, it is very simple and easily learned; the sewing from the ordinary spools is a great advantage; the stitch is entirely reliable. It does ordinary work beautifully, and the embroidery stitch. It is not liable to get out of order. It operates very easily. I suppose I can sum it all up by saying it is a perfect machine.

"I have had occasion to compare the work with that of other machines. The result was always favorable to the Grover & Baker Machine."

Mrs. Dr. Andrews testifies:

"I prefer it to all other machines I have known anything about, for the ease and simplicity with which it operates and is managed; for the perfect elasticity of the stitch; the ease with which the work can be ripped, if desired, and still retain its strength when the thread is cut, or accidentally broken; its adaptation to different kinds of work, from fine to coarse, without change of needle or tension."

Mrs. Marie J. Keane, of the house of Natalie Tilman & Co., says:

"Our customers all prefer the Grover & Baker Machine, for durability and beauty of stitch."

Mrs. Jennie C. Croly ("Jenny June") says:

"I prefer it to any machine. I like the Grover & Baker, in the first place, because if I had any other I should still want a Grover & Baker; and having a Grover & Baker, it answers the purpose of all the rest. It does a greater variety of work, and it is easier to learn than any other. I like the stitch because of its beauty and strength, and because, although it can be taken out, it doesn't rip, not even by cutting every other stitch."

The foregoing testimony establishes beyond question:

1. The great simplicity and ease of management of the Grover & Baker Machines.
2. That they are not liable to get out of repair.
3. That a greater variety of work can be done with them than with other machines.
4. That the elasticity of the stitch causes the work to last longer, look neater, and wear better than work done on other machines.
5. That the facility with which any part of the seam can be removed when desired is a great advantage.
6. That the seam will retain its strength even when cut or broken at intervals.
7. That, besides doing all varieties of work done by other sewing machines, these machines execute beautiful embroidery.

Over one hundred other witnesses in the case above referred to testified to the superiority of the Grover & Baker Machines in the points named in substantially the same language, and thousands of letters have been received from all parts of the world, stating the same facts.

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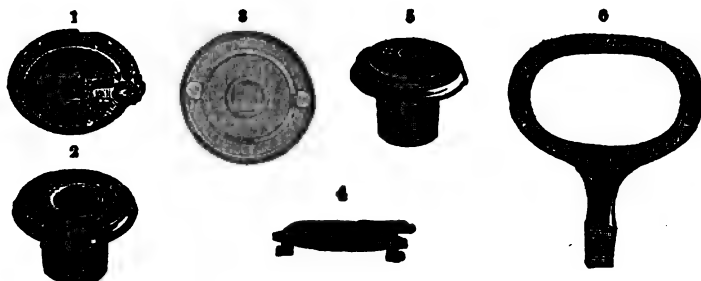


Fig. 1 represents top view of cover; 2, top view of well without cover; 3, bottom of cover; 4, edge of cover; 5, well complete; 6, key to cover. The Ink Well (5) is inserted into desk through hole bored for the purpose, so that the flange rests on surface of desk, and is secured in place by screws in countersunk holes. Flange of well has on its outer edge a lip, which alone rests on desk, leaving space within below interior part of flange. This space allows room in which pins projecting downward from lower side of cover may freely move. Pins have heads (as seen in 4), and are first inserted through apertures large enough to admit them freely in flange of well (as in 2). From these apertures extend, concentrically in opposite directions, curved slots, just wide enough to allow necks of pins to pass freely. Lower edges of these slots have slight inclination downward from apertures, so that as cover is turned the heads of pins become wedged against inclined surfaces, and draw cover closely upon well, on which it fits tightly. Cover is fastened by key (Fig. 6).

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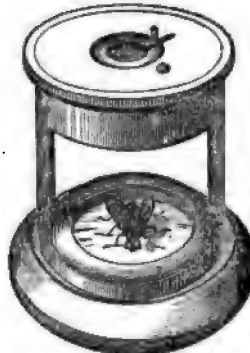
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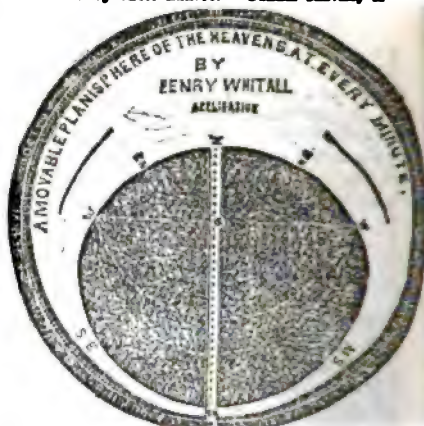
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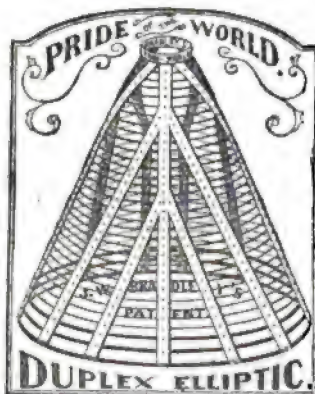
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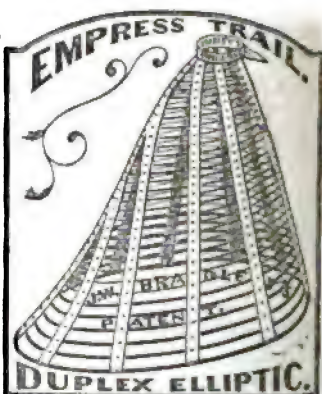
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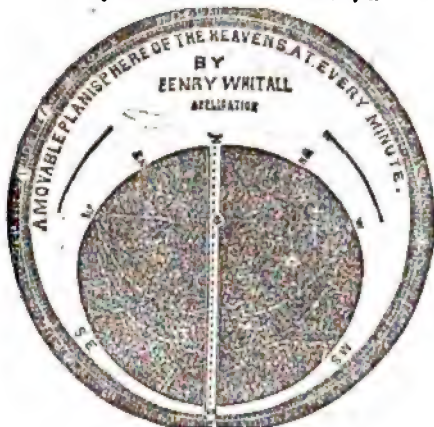


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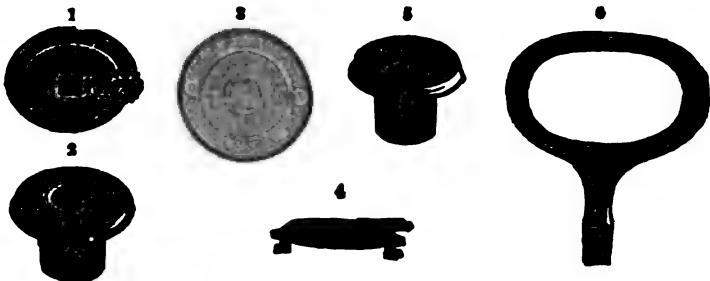


Fig. 1 represents top view of cover; 2, top view of well without cover; 3, bottom of cover; 4, edge of cover; 5, well complete; 6, key to cover. The Ink Well (5) is inserted into desk through hole bored for the purpose, so that the flange rests on surface of desk, and is secured in place by screws in countersunk holes. Flange of well has on its outer edge a lip, which alone rests on desk, leaving space within below interior part of flange. This space allows room in which pins projecting downward from lower side of cover may freely move. Pins have heads (as seen in 4), and are first inserted through apertures large enough to admit them freely in flange of well (as in 2). From these apertures extend, concentrically in opposite directions, curved slots, just wide enough to allow heads of pins to pass freely. Lower edges of these slots have slight inclination downward from apertures, so that as cover is turned the heads of pins become wedged against inclined surfaces, and draw cover closely upon well, so which it fits tightly. Cover is fastened by key (Fig. 6).

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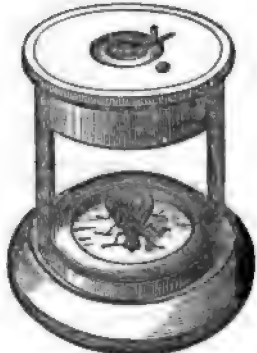
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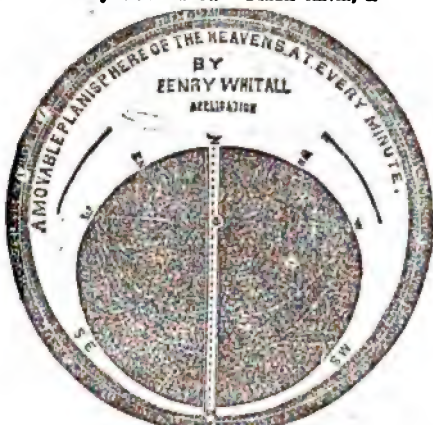
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# AMERICAN EDUCATIONAL MONTHLY.

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VOL. III.

DECEMBER, 1866.

No. 12.

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## PEDAGOGICAL LAW.

### ARTICLE VII.

#### *The Law as to Religion in Schools.—Concluded.*

SEC. 1. MARYLAND.—It is the duty of every man to worship God in such manner as he thinks most acceptable to Him, and all persons are equally entitled to protection in their religious liberty; wherefore, no person ought by any law to be molested in his person or estate on account of his religious persuasion or profession, or for his religious practice, unless under color of religion any man shall disturb the good order, peace, or safety of the State, or shall infringe the laws of morality, or injure others in their natural, civil, or religious rights (*Const. of Md.*, B. of R., art. 33). No other test or qualification ought to be required on admission to any office of trust or profit, than such oath of office as may be prescribed by this constitution or by the laws of the State, and a declaration of *belief in the Christian religion*; and if the party shall profess to be a Jew, the declaration shall be of his *belief in a future state of rewards and punishments* (*Id.*, art. 34). In order to carry out faithfully the spirit of these constitutional provisions, every teacher in Maryland should be a believer in the Christian religion, or, at least, in a future state of rewards and punishments. Persons who do not so believe, should not be licensed, or if any are already licensed, their licenses should be revoked. The examiners in this State may very properly inquire whether the candidates for licenses believe in the Christian religion or in a future state of rewards and punishments—for such an inquiry is a part of their legitimate duty at the examination. But they have no right to go further than the law requires. If, for example, an applicant for a certificate declares that he believes in “a future state of rewards and punishments,” or “in the Christian religion,” then he can be questioned no further on the subject; or if questioned, he may refuse to answer. If he says he believes in a future state of rewards and punishments, the law can require nothing more, for the Constitution prohibits any further test. It is a little singular that this Constitution, which does not secure full religious liberty, is the only one of thirty-five now before us which has the phrase “religious liberty” in it.

The Constitutions of several of the States, without the phrase, have more of the spirit.

SEC. 2. VIRGINIA.—Religion, or the duty which we owe to our Creator, and the manner of discharging it, can be directed only by reason and conviction, not by force or violence; and it is the mutual duty of all to practice Christian forbearance, love, and charity towards each other (*Const. of Va.*, B. of R., sec. 16). There is no public-school system yet established in Virginia. At the last session of the Legislature, two of the counties, King George and Stafford, were authorized to borrow money for educational purposes, but owing to the great scarcity of money, nothing of moment has been accomplished. We have the assurance of a high official of the State, that the people are only waiting for better times in order to inaugurate a system of public schools similar to those now so successful elsewhere. If such schools are established under the present Constitution, they should, and doubtless will, be perfectly free from sectarianism.

SEC. 3. NORTH CAROLINA.—All persons shall be at liberty to exercise their own mode of worship; provided that nothing herein contained shall be construed to exempt preachers of treasonable or seditious discourses from legal trial or punishment (*Const. of N. C.*, art. 34). No person who shall deny the being of God, or the truth of the Christian religion, or the divine authority of the Old or New Testament, shall be capable of holding any office or place of trust or profit, in the civil department within this State (*Id.*, art. 4, sec. 2, of Amend.) Although there is an established Church in England, the Jews were admitted to Parliament more than ten years ago. North Carolina is, in this respect, evidently behind the times. No other Southern State is so illiberal. More than two centuries ago, little Rhode Island was inspired with a new theory of government. All the other States of this Union have since caught the inspiration, either wholly or partially, but North Carolina is the most laggard of them all.

SEC. 4. SOUTH CAROLINA.—The free exercise and enjoyment of religious profession and worship, without discrimination or preference, shall forever hereafter (1790) be allowed within this State to all mankind, provided that the liberty of conscience thereby declared shall not be so construed as to excuse acts of licentiousness, or justify practices inconsistent with the peace or safety of this State (*Const. of S. C.*, art 8). What this State now needs more than any thing else, we imagine, is a popular system of public schools; and we have reason to believe that something of this kind is in contemplation. The legislation of this State, running through a period of more than forty years, embraces little else, in reference to schools, than the appropriations annually made to support indigent scholars. The appropriation for some twelve years was seventy-five thousand dollars annually, and previous thereto thirty-seven thousand

five hundred. This sum was appropriated to the districts according to the representation in the lower branch of the Legislature, and its expenditure was confided to Boards of Commissioners in each district. Each Board adopted its own rules and system, and hence there has been no uniformity in the organization of schools or in expending the funds. The Boards are only required to report annually to the Legislature, and exhibit the manner in which the funds have been expended and the number of indigent scholars taught. Persons who have the means of educating their own children are never permitted to share in the appropriation; the privilege is restricted to the indigent alone. (*Letter from Gov. James L. Orr, May 12, 1866.*)

SEC. 5. GEORGIA.—The constitutional provisions in reference to the liberty of conscience in this State are the same in legal effect, as those of South Carolina, though more extended, and, if possible, more emphatic. (*Const. of Ga., art. 4, sec. 10.*)

SEC. 6. FLORIDA.—All men have a natural and inalienable right to worship Almighty God according to the dictates of their own consciences; and no preference shall ever be given by law to any religious establishment, or mode of worship, in this State (*Const. of Fla., art. 1, sec. 3.*)

SEC. 7. ALABAMA.—No person within this State shall, upon any pretence, be deprived of the inestimable privilege of worshipping God in the manner most agreeable to his own conscience; nor be compelled to attend any place of worship; nor shall any one be obliged to pay any tithes, taxes, or other rates, for the building or repairing of any place of worship, or for the maintenance of any minister or ministry (*Const. of Ala., art. 1, sec. 3*). No human authority ought, in any case whatever, to control or interfere with the rights of conscience (*Id., sec. 4*). No person shall be hurt, molested, or restrained in his religious profession, sentiments, or persuasion, provided he does not disturb others in their religious worship (*Id., sec. 5*). The civil rights, privileges, and capacities of any citizen shall in no way be diminished or enlarged on account of his religious principles (*Id., sec. 6*). There shall be no establishment of religion by law; no preference shall ever be given by law to any religious sect, society, denomination, or mode of worship; and no religious test shall ever be required as a qualification to any office or public trust under this State (*Id., sec. 7*). Every citizen may speak, write, and publish his sentiments, being responsible for the abuse of that privilege (*Id., sec. 8*). We cite the foregoing sections of the Alabama Constitution in full, not because they are unique, for almost the same words are in the Constitutions of several other States; nor because they insure a larger religious liberty, for we are fully aware that perfection cannot be made more perfect by the mere force of repetitions. In Rhode Island, New York, New Jersey, Delaware, Virginia, South Carolina, Georgia, Florida, and several other States, religious liberty is as completely constitutional as in Alabama.

Though the provisions in some of the Constitutions may not be so extended, they are equally comprehensive, and the same in legal effect. The Constitution of Alabama, however, contains so many different expressions for the same thing, that we think any one who will take the trouble to read the sections cited, will never after be in error as to what is meant by "religious liberty."

SEC. 8. MISSISSIPPI.—The constitutional provisions in relation to the liberty of conscience, of speech, and of the press, are in legal effect the same in this State as in Alabama, and the language is very nearly the same (*Const. of Miss.*, art. 1, sec. 3-7).

SEC. 9. LOUISIANA.—The Constitution of this State is singularly silent on the subject of religion. The freedom of the press is secured, and every citizen may freely speak, write, and publish his sentiments on all subjects, being responsible for an abuse of this liberty (*Const. of La.*, tit. 6, art. 106). This is one of the few Southern States that have a system of public schools. These schools suffered greatly from the war, but it is to be hoped that they will not be permitted to languish long, now that peace is restored. So many considerations of vast import to the highest interests of the State, and so many influences affecting alike the moral and intellectual welfare of her citizens, are involved in this, that the encouragement of popular education would seem to be the simplest expression of public duty at this crisis. The war has, indeed, deprived most of those citizens, who formerly supported public schools, of the power of contributing to them for a period which it is not now easy to determine. But while this is true, it cannot be overlooked that, now more than ever, are the people in need of a liberal system of public education which will supply their children with those advantages which their private means will no longer enable them to afford. Upon the State, therefore, falls the responsibility of a wise and provident legislation—a legislation that shall hold the present in wardship for the future—to guard this beneficent system from complete extinction (*Rep. of Supt.*, Jan. 22, 1866).

SEC. 10. TEXAS.—The law on the subject under consideration is the same in Texas as in Alabama, though not expressed in the same words. It is also made the duty of the Legislature to pass such laws as shall be necessary to protect every religious denomination in the peaceable enjoyment of their own mode of public worship (*Const. of Texas*, art. 1, sec. 3 and 4).

SEC. 11. ARKANSAS.—The civil rights, privileges, or capacities of any citizen shall in no wise be diminished or enlarged on account of his religion (*Const. of Ark.*, art. 2, sec. 4). But no person who denies the being of a God shall hold any office in the civil department of this State, nor be allowed his oath in any court (*Id.*, art. 8, sec. 3).

SEC. 12. TENNESSEE.—The law as to religion in this State is the same in legal effect, and almost the same in language, as in Maryland (*Const. of Tenn.*, art. 1, sec. 3 and 4; *Id.*, art. 9, sec. 2).

SEC. 13. KENTUCKY.—The people of this State have reserved to themselves full religious liberty (*Const. of Ky.*, art. 13, sec. 5 and 6). We find nothing in the school laws inconsistent therewith.

SEC. 14. WEST VIRGINIA.—The constitutional provisions are the same in legal effect as in Kentucky (*Const. of West Va.*, art. 2, sec. 9). But all teachers employed in the public schools of this State, shall read, or cause to be read, at least one chapter from the Bible, in a language understood by the scholars, every day at the opening of the school, and inculcate the duties of piety, morality, and respect for the laws and government of this country (*School Laws of West Va.*, 1866, sec. 29).

SEC. 15. OHIO, MICHIGAN, ILLINOIS, MISSOURI, OREGON, MINNESOTA, and DELAWARE.—What has been stated of Kentucky, will apply equally to all of these States (*Const. of Ohio*, art. 1, sec. 7; *Const. of Mich.*, art. 4, sec. 39-41; *Const. of Ill.*, art. 13, sec. 3 and 4; *Const. of Mo.*, art. 13, sec. 4 and 5; *Const. of Oregon*, art. 1, sec. 2-7; *Const. of Minn.*, art. 1, sec. 17 and 19; *Const. of Del.*, art., sec. 1 and 2).

SEC. 16. INDIANA.—The constitutional provisions are the same in substance as in the foregoing States (*Const. of Ind.*, art. 1, sec. 2-7). But the Bible shall not be excluded from the public schools of the State (*Com. School Laws of Ind.*, 1865, sec. 167).

SEC. 17. IOWA.—The constitutional provisions are much like those in Alabama, and the same in legal effect (*Const. of Iowa*, art. 1, sec. 3 and 4). But the Bible shall not be excluded from any school or institution in this State, under the control of the Board, nor shall any pupil be required to read it contrary to the wishes of his parent or guardian (*School Laws of Iowa*, 1864, ch. 8, sec. 1). The spirit of this law, it seems to us, is more consistent with the Constitution of the State, than is the West Virginia or Indiana law on the same subject.

SEC. 18. WISCONSIN.—The constitutional provisions are the same in legal effect here as in Alabama (*Const. of Wis.*, art. 1, sec. 18, 19). But the Constitution of this State also, in reference to district schools, provides that "no sectarian instruction shall be allowed therein (*Id.*, art. 10, sec. 3). We think, however, that this provision is unnecessary, as what it provides for would naturally follow from the other provisions.

SEC. 19. CALIFORNIA.—The provision in the Constitution of California, on this subject, is similar to that in the Constitution of New York, and the same in legal effect (*Const. of Cal.*, art. 1, sec. 4). No books, tracts, papers, catechisms, or other publications of a sectarian or denominational character, shall be used or distributed in any school, or shall be made a part of any school library; neither shall any sectarian or denominational doctrine be taught therein (*Revised School Law of Cal.*, 1866, sec. 60). We think our friends in California have the true idea of religious liberty.

SEC. 20. KANSAS.—No religious sect or sects shall ever control any part of the Common School or University Fund of the State (*Const. of Kansas*, art. 6, sec. 8).

SEC. 21. PRAYER IN SCHOOL.—The law is pretty much the same in all the States on this subject. We find it everywhere written in blank. Nothing is more certain, however, than that prayer is allowable when no one objects to it ; but it should always be perfectly free from sectarianism. Prayer, if made in the schools established by the State, should be made in the spirit of the laws of the State. But here is the difficulty. It is next to impossible for an individual who is sectarian, to speak and act in every instance in the spirit of laws that are not sectarian. The law, generally speaking, regards all sects and persuasions with perfect impartiality ; any teacher who can do the same thing and in the same spirit, we think, may reasonably expect to be permitted to open or close his school with prayer without serious objection. But, in the language of the Constitution of Virginia, "it is the mutual duty of all to practice Christian forbearance, love, and charity towards each other." The teacher should practice forbearance, love, and charity towards the scholars, and towards their parents, and he should respect their opinions and wishes, precisely as he would have his own respected by them. If he can do this sincerely, he will probably be permitted to open or close his school with or without reading and prayer, just as he may deem most agreeable. We hope that no teacher who knows the law, will cease praying through fear. The other and better way will be to make the spirit and the prayer harmonize with the law, and then "walk in the light."

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SOWING WILD OATS.—In all the wide range of accepted maxims, there is none, take it for all in all, more thoroughly abominable than the one as to the sowing of wild oats. Look at it on what side you will, and I will defy you to make any thing but a devil's maxim of it. What a man—be he young, old, or middle-aged—sows, that and nothing else, shall he reap. The only thing to do with wild oats is to put them carefully in the hottest part of the fire, and get them burnt to dust, every seed of them. If you sow them, no matter in what ground, up they will come, with long tough roots like the couch-grass, and luxuriant stalks and leaves, as sure as there is a sun in heaven—a crop which it turns one's heart old to think of. The devil, too, whose special crop they are, will see that they thrive, and you, and nobody else, will have to reap them ; and no common reaping will get them out of the soil, which must be dug down deep, again and again. Well for you if, with all your care, you can make the ground sweet again by your dying day.—*Dr. Arnold.*

## EXACT SCHOLARSHIP.\*

OUR "Queen's English" has many strange freaks, but none more capricious, perhaps, than the perfect indifference she exhibits to the derivative meanings of words—the manner in which she allows them to throw off all parental restraints, and fall into the ways and habits of the new generation in which they find themselves. Starting out into the world fresh from home, words carry for a while home influences; but the new phases of life they meet, the rough places they must pass over, the temptations and lures by which the world beguiles them, soon efface these impressions, and they become so changed that you hardly recognize them.

Thus a *physician* was formerly a natural philosopher; now he is often a student of any thing but nature. *Rhetoric* was once the art of a Cicero or a Demosthenes; now, though a man speaks not a word, he employs the art in writing as much they did in speaking. The word *orator* also, if you ask its parentage, will show some very prodigal wanderings; for originally an *orator* was one who prayed in profound submission to the will of God. *Logic*, from its derivation, is as much the science of numbers as of "the laws of human thought and reasoning." And so we might multiply instances, but we can not stay to do so. Search for them, ye who will, and your labor will never be in vain.

A better example probably cannot be found than in the subject of this article. We mean the word *scholar* and its derivatives. The child, whose "young idea" has hardly yet begun "to shoot," is no less a *scholar* in our common parlance, than is he whose daily work has been for years, and still is, to pursue that always infinitely distant point—knowledge. The one imagines it reached and taken into final possession as soon as his first success at school has been gained; the other it leads, as an *ignis fatuus* decoys its victim, on, on, to a point never to be reached—at least, this side of death. The learned commentators on the Greek classics are the *scholiasts*, the *school-men*; the *school-boy* is but a poor disciple toiling in the lowest paths on the hill of knowledge. A *school* is either the humblest place at Wisdom's feet, or the beautiful gardens where sages talked the subtlest philosophy; the place where stern old Dominies flogged us for our mistakes in quantity, rather than for the quantity of our mistakes, or our Alma Mater, where our truly learned elder brothers, whose task it is to assist in the family training, won us by their bright examples to paths of usefulness and honor.

But though our words are prone to wander, need we follow their wanderings? The *scholar* is not the school-boy, nor should *scholarship* imply only moderate attainments. *Pupil* and *student* are modest

\* For some suggestions which led to this article, the writer is indebted to a friend and former instructor, Prof. Coppée, now President of Lehigh University.

terms, and, therefore, let our school-boys and college-men be satisfied with them. Let him alone whose attainments are great and varied, obtain the honored title, *scholar*. To him alone, whose aim is to view the whole world of knowledge—the cosmopolitan in learning—give the honor ; for surely no other deserves it. Can the votary of physical science, who thinks nothing else worth study ; can the devotee to literature and metaphysics, who delights in them alone ; can the linguist, who finds a reward for his labors only in languages—can either of these be a *scholar* in the strict sense of the word ? If so, then he who laughs at the historian and philologist, and lauds the natural philosopher and astronomer ; he who spurns metaphysics, as proving

“ God’s being so definitely, that man’s doubt  
Grows self-defined the other side the line,”

and demands the precision of the exact science in mental philosophy ; or he who calls poetry and the fine arts vague, asking “ What does the *Paradise Lost* prove ? ” and demanding a demonstration of the theory of music,—all these are “ *scholars*,” and compare favorably with him who, by liberal-view of the sciences, grasps the whole curriculum and assigns to each its place. No ! as the world of man includes all nations, every race ; as the myriad sides of the polygon but complete the circumference of the circle ; so science, literature, and language are all needed to make up the whole periphery of “ *scholarship*.”

But more ! This scholarship is progressive, and perfection is reached only by progress. Among the Egyptians, astrology held the place of astronomy ; to the alchemist a mysterious secret was chemistry ; acoustic principles well known to every school-boy now, formerly excited superstitious wonder ; comets were signs of the times ; eclipses were supposed to be caused by a huge serpent that wound himself around the planet ; and other phenomena, to us now plain and simple, were equally the source of “ old wives’ fables.”

But though this progress has gone on, and is still going on ; though the scholarship of the nineteenth century has advanced so far beyond that of the middle ages that it is intelligent instead of superstitious, logical instead of fanciful ; yet this is not all. There is a step beyond this, and in it we are all interested. I mean that advance which renders scholarship precise, fixed, exact ; which gives its possessor power to quote not only the ideas of a writer, but his words also ; not only his words, but the work and the place in which they are found ; which enables him, in law, to cite authorities and confirm his citation ; in Congress, so to bring forward the words of the great statesmen that their influence is felt as if they spoke ; in religion, to have a proof for every skeptic, a warning for every hardened mind, “ a balm for every wounded breast.”

Some few such cases we have indeed seen, but how rare they are !



Such scholarship was Bentley's, who, when Pope read to him his new translation of Homer—a work which was to immortalize his name—remarked, “A very pretty poem, Mr. Pope, but pray don't call it Homer.” How vast the attainments which could detect at a single reading no Homeric simplicity, grace, or fire in Pope's paraphrase! Again, it is said of Sheridan that his acquaintance with the Greek authors was so perfect, that on one occasion in Parliament, when the Minister of the Treasury had maintained his point by a citation from a Greek dramatist, he sprang to his feet, and professedly quoting the rest of the passage, accused the minister of having omitted part of the verses. The lines which he supplied were so apt, that his opponent confessed that he must have forgotten the rest of the passage, and Sheridan gained his point. When a friend questioned him, however, as to where the lines were to be found, he acknowledged that he had improvised them for the occasion.

But this exactness of scholarship is very exceptional. Do we not rather see, even among learned men, a want of precision, a lack of exactness, a sort of school-boy, “I know, but I can't think” acquaintance with knowledge, which keeps from the brow, even of those who wear the garland of the scholar, the richer crown of the exact scholar? While, if we mingle in society, we hear one quote Byron and call it Shelley, another Pope's as the words of Swift, while a third has the substance of an author's meaning, but forgets his words, or mixes and confuses both.

We do not speak as from a high tower of excellence to those far below, but as one earnest student to others equally earnest. Probably no one thing has led the writer of this article to give publicity to these thoughts, more than the consciousness of his own failings; and for this reason he calls on all, especially teachers, to set to work to effect a change. Do you ask what change is needed, and how shall we bring it about? Let us awake fully to the want; and if the memory of gray hairs fails to compass this difficult undertaking, let us who are young and vigorous begin the good work. Let the students of our high schools and colleges, the fellows and alumni of our universities see to it, each for himself, that he grows daily more and more exact in his scholarship, by never resting satisfied with any thing short of this high standard. Let us who are teachers, set this point as a goal before our pupils, and never allow any but perfect attainments to pass as sufficient. We know that this is not the work of a day, a term, or even a year; but though we reach it only late in life, yet *then* the honor will be won; the satisfaction with which we can recall the years of life passed away forever, will be real and unbounded. So long as memory is spared—and memory will be the last to fail after such training—so long will the world of knowledge be within us, and no physical weakness can take away our pleasure. The loyalty we swear to learning when we assume the student's gown, demands from us an effort; and no man of education can honorably refuse to do his share.

**ISOMETRIC DRAWING.****LESSON IV.**

**W**E will now practice upon some forms produced by cutting away more of the edges of the cube than in the last lesson; but the method of measuring and drawing will be the same as before.

To draw Fig. 20, make a complete cube one inch on each side; then measure from each upper corner three-eighths of an inch on each of the upper lines; this will leave the little spaces MN, WY, etc., each one-quarter of an inch.

Draw from each of the points N, W, etc., a line to the point opposite; that is, from N to T and from W to X, and so on, till each point is connected with its opposite point, as in the figure. Draw faint lines at first, as in drawing the outline of the cube, and then make those parts heavy which are to be retained in the finished figure.

Now draw from the corners or angles, vertical lines as in the figure, each one inch long, and join their extremities to complete the diagram.

The lines which are to be erased in your figure are shown as dotted lines in Fig. 20.

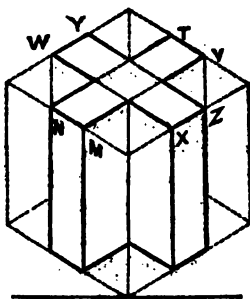
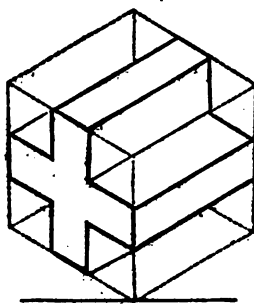
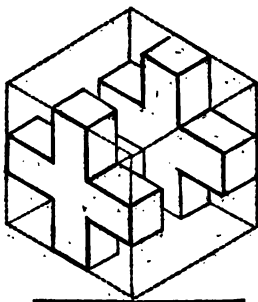
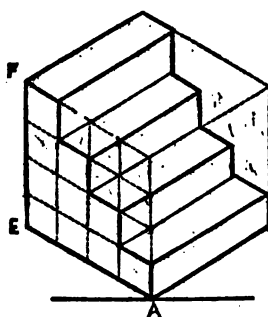
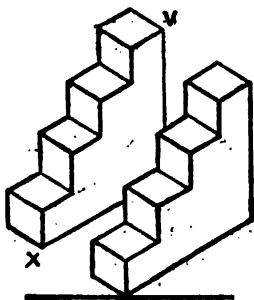
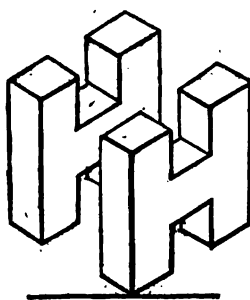
The block represented in Fig. 21 is that of Fig. 20 in a different position.

Fig. 22 is still the same block, but a piece is cut out of the middle. It is easily drawn by first making Fig. 21, then measuring from each end of all the long lines, a quarter of an inch. You will thus have a set of points, which if joined by lines parallel to the lines of the end of the block, will represent the ends of the pieces remaining. After erasing the middle part, which is supposed to be cut away, you will find that there are other lines to be drawn to complete that part which is farthest from you; but by noticing that it is like the nearest part, you can easily complete it.

Fig. 23 is a flight of steps, and is drawn by dividing the lines AE and EF into four parts and drawing lines across as in the figure. Then draw the heavy zigzag line from F to A. Next draw from each angle of this heavy line, a line to the right, and make it the proper length.

Join the ends of these lines and the figure will be complete.

To draw Fig. 24, make the flight of steps complete as in Fig. 23; then measure from the ends of each step a quarter of an inch; connect these points of measurement, and you will have two zigzag lines running down the steps; erase the part between these lines and the figure will be nearly complete. The vertical line from V and the base-line from X will be the finishing lines.

*Fig. 20**Fig. 21**Fig. 22**Fig. 23**Fig. 24**Fig. 25*

## ATMOSPHERIC PHENOMENA.

## II.

*Rain.*

"No water, no vegetables; no vegetables, no animals; no animals, no men."

THE efforts of nature to maintain the proper balance of life by an adequate supply of water, are incredibly gigantic. Maury estimates that enough rain falls, annually, to cover the earth five feet in depth, or to form a belt three thousand miles wide and sixteen feet deep. The agent which lifts this immense mass is the sun's heat. The force exerted in making and raising the vapor from one acre has been calculated to equal the power of thirty horses; or for the whole area of the earth, a power eight hundred times greater than all the water-power of Europe.\* The larger portion of the required moisture is manifestly derived from the ocean and its tributaries; but there are other sources by no means unimportant. Hales ascertained that during twelve hours of daylight a sunflower yielded twenty ounces of vapor, and a cabbage nineteen ounces.† According to J. C. Draper, a man at rest exhales nearly three pounds per day of insensible perspiration; and Sanctoris asserts that in a heated or excited condition the amount rises to five pounds.

For the conveyance of vapor we are indebted to the winds. The greatest extent of water surface is in the southern hemisphere, and there we find the greatest evaporation. But in the northern hemisphere the annual fall of rain exceeds that in the southern by about twelve inches. This can be accounted for only through the agency of the trade-winds. The southeast trade, laden with the burden of vapor from the southern seas, rises at the "Variables," crosses them, as we have already seen, and becomes the upper trade, blowing from the southwest. As it proceeds northward it becomes chilled, and at the calms of Cancer or the "horse latitudes," as navigators term them, it throws off a large portion of its moisture. To this wind northwestern Europe owes its rainy climate.

## CLOUDS.

While suspended, the vapor is comparatively useless. It must fall. And here we come upon some of the most vexing problems in meteorology. It is easy to say with Tyndall that vapor becoming chilled condenses and falls as rain. But before the rain we have clouds. As these are simply collections of water-drops, or ice crystals, a difficulty presents

\* "Phys. Geography of the Sea," p. 86.

† "Statistical Essays," Lond., 1781, vol. 1, pp. 5 and 15.

itself. How can water, specifically many times heavier than air, be sustained in the lighter element? With truly alchemistic subtilty, Descartes asserted that the vesicles of vapor are little spheres of water rendered buoyant by the *materia subtilis* of space. Dr. Franklin maintained that moisture is dissolved in the air as salts in water, and that when the particles are thrown off they hold their place by adhering to the atoms of air. Gay-Lussac refers their suspension to the impulsion of ascending currents of air; and Fresnel supposed that the solar heat absorbed by clouds forms groups of miniature Montgolfières, which rise according to their superior temperature.

Mr. Rowell\* recently offered a plausible explanation. In his estimation electricity is the controlling agency. "The atoms of water being so minute, are, when enveloped in their natural coatings of electricity, rendered so buoyant as to be liable, even in their most condensed state, to be carried off by slight currents of air; but if expanded by heat, their capacity for electricity being increased by their increase of surface, they are then rendered buoyant at all times, and are buoyed up into the air by their coatings of electricity; there, if condensed, they become positively electrified, but are still buoyed up by the electricity, till, on the escape of the surcharge, the particles fall as rain." The main objection to this hypothesis is its assumption that electricity is material, while, from analogy, we are led to believe that it, like heat and light, is merely a mode of motion. It is the most satisfactory, but any of the theories we have given may be taken with equal certainty, as "at present we do not possess sufficient data concerning the real constitution of clouds and the properties of the vapors, or the different elements which compose them, on which to ground a satisfactory explanation of their various appearances."†

To account for the precipitation of rain, another disputed matter, Mr. Rowell finds a ready cause in electricity. A particle, freed in some manner from its electrical coating, falls and coalesces with other particles to form drops. By the fall of these and the motion of discharged electricity, a vacuum is formed, and the sudden pressure to fill the space brings more particles into contact and produces more rain. Dr. Dalton held that if two masses of air of unequal temperatures are mixed when saturated with moisture, precipitation ensues; if they are under saturation there will be no precipitation, or if any, very slight.‡ The action of electricity can only be secondary, the main cause is clearly reduction of temperature. The air may remain saturated for several days without a fall of rain, if the temperature is uniform; but a slight chilling of the atmosphere in such cases invariably produces rain. This is now the accepted theory of the formation of dew. It certainly applies with equal force to the formation of rain-drops.

\* "An Essay on the Causes of Rain and its Allied Phenomena." Oxford. 1859.

† "Pouillet, Elem. de Phys. et de Meteorol." Tom. ii., p. 754.

‡ "Ure's Dictionary of Chem. and Min." Art. Rain.

## DISTRIBUTION OF RAIN.

As has already been stated, rain is unequally distributed over the earth's surface. In some countries, near the equator and along the tropics, it rains almost incessantly during about one-third of the year, and is dry for the remainder. In other regions, showers are frequent at all seasons, but are of short duration ; while in others it may be said never to rain. The advance of science has rendered these phenomena easy of explanation. In Ireland an umbrella is almost as essential as a hat. This country lies in the course of the southwest winds, which are merely the southeast trades. These convey the vapor from the southern seas, and also absorb, in their passage over the north Atlantic, much moisture, most of which is condensed by the headlands on the Irish coast.

In Peru, west of the Andes, an umbrella is purely ornamental, and, in a lifetime, one might never luxuriate in a heavy shower. Peru lies in the region of perpetual southeast trade-winds. These cross the Atlantic and strike the coast of Brazil, over which they pass, depositing the vapor as they go, and at length reach the Andes, where their temperature is so reduced that the last particle of moisture is wrung out of them. They cross the mountains as dry winds, and receive no accession of vapor until they reach the Pacific. For like reasons we find rainless regions in Asia, Africa, and Western Mexico. These districts lie under the northeast trades, which, as the geography of the countries shows, are dry winds.

The rainy seasons in tropical countries are caused by the motion of the trades as they follow the sun ; at one season the trades prevail, and at another the surface winds, returning to the poles. In some districts lying on the weather-side of mountain ranges, the fall of rain is almost incredible. In Patagonia, where the northwest winds are literally desiccated by the Andes, Capt. King found the fall of water equal to nearly thirteen feet in forty-one days ; and Darwin reports that the superficial sea-water along the coast is quite fresh.\* Herschel says that nearly fifty feet of rain fall annually at Cherra Pungee.†

## ABNORMAL RAINS.

Rains often contain ingredients other than water: Brine showers have occasionally fallen. One of these, which happened some years ago in Suffolk, England, incrustated the trees with salt, and rendered the grass so pungent that cattle would not eat it until forced by severe hunger. Dust storms are not unfrequent in volcanic countries, where also the rain often contains sulphurous acid. In our Western and Northern States, a yellow inflammable substance resembling sulphur sometimes accompanies rain. Naturalists regard this as the pollen of such plants as the alder and the

\* "Maury, *Phys. Geog. of the Sea*," p. 98.

† "Heat, as a Mode of Motion," p. 191.

pine-trees which cover so large a portion of the Southern States. The most alarming of anomalous rains are the so-called blood-rains. Unfortunately, these have never been seen as they fell. In 1608, at Aix, the buildings were found sprinkled with great drops like blood, a phenomenon which produced great terror. The origin of these have never been determined, but they are usually regarded as the excrements of insects. In 1670, the people at the Hague awoke one morning to find their "lakes and rivers turned into blood." While the people were bemoaning their sins, a physician submitted some of the water to microscopical examination, and ascertained that the color was due to an animacule, the horned water-flea.

Not less wonderful than blood-rains are frog-storms, which usually occur after protracted droughts. The frogs appear in vast numbers after the shower. Multitudes maintain that the animals are generated in the clouds, but there can be no doubt that the refreshing rain only revives the creatures and brings them from their holes. Such as have been seen in their fall, dropped under the eaves of houses, whence they had evidently been washed, as they were found in a sadly bruised condition. Signor Redi has shown that if the frogs fell from above there must have been green fields in the upper regions, for their stomachs contained herbs and other food half digested. Fish-storms are not uncommon, and are invariably accompanied by furious hurricanes. Such a storm occurred in a town not far from Paris, in France. It demolished many houses, but in measure recompensed the loss by strewing the streets with fine fish. The celestial origin of these was unquestioned until it was discovered that a well-stocked fish-pond, which stood on an eminence near at hand, had been blown dry. A hurricane once passed over Kent, England, and left the streets of one village deluged with rain and paved with sprats.

After a long period of drought and scarcity in Silesia, there happened a providential shower of manna. As the peasants were about to gather plentifully and eat, a scientific man ascertained that the grains were seed of a species of veronica, set free from their pods by the rain. A similar occurrence took place at Warwick, England, in 1661, and the grateful people were offering their thanksgivings for the providential supply of wheat, when a committee of the Royal Society pronounced the "wheat" only seeds of ivy-berries conveyed thither by starlings.\*

#### ARTIFICIAL PRODUCTION OF RAIN.

A problem of much practical importance, is the artificial production of rain. Among the Bechuanas there are rain merchants or doctors, who by incantations pretend to procure rain.† Dr. Livingstone and Winwood

\* The greater number of cases here given have been selected from the "Encyclopedia Britannica" and an article in the "British Quarterly," 1859.

† "Moffat, Missionary Labors in South Africa." Amer. Ed., p. 209.

Reade\* give graphic accounts of the ceremonies observed by such impostors in Northern and Central Africa. Even in enlightened countries prayers to Divinities are supposed by some to be of avail.

That rain could be obtained at will was a favorite theory of Arago. He had perceived that great battles are usually followed by heavy rain-storms, and therefore supposed that by repeated discharges of artillery the temperature of the atmosphere could be reduced below its dew-point. His experiments failed to substantiate the theory. Mr. Espy,† who, thirty years ago, was well known as an exceedingly independent thinker and investigator, maintained that in times of drought rain might readily be procured at any time. Having noticed that rain usually succeeds the burning over of woods or prairies, he conceived that if large fires were built in a circle inclosing a considerable area, rain might reasonably be expected soon after in the immediate vicinity. This theory met with much ridicule, but was so clearly borne out by facts, that its correctness is now generally conceded. The process recommended by Mr. Espy is too expensive, however, to come into general use, and practically the problem is still unsolved.

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### DEMOCRACY IN EDUCATION.

HOWEVER men may differ with reference to democracy in government, there can be little hesitation on the part of any, who have passed through college, in denouncing it in the most cordial manner when applied to the management of an educational institution. Its effect in such cases is not to give all a chance to make progress according to their abilities, but to require all to make progress according to the limited abilities of some; or, in other words, to withhold from many the opportunities to which they are entitled. Industry and talent are robbed, while the standard of education is kept low. In the collegiate contest of mind with *matter*, brain with *skull*, the preponderance of power is given to those who have no claim to it. The requirements necessary for graduation—if these words may be so inaccurately employed—are adapted, with some degree of justice, to the most limited capabilities. But it is unjust that ability, which is beyond the average, should not be duly fostered and furnished with every advantage.

The well-known circumstances are these. A class in college is composed of elements of the most heterogeneous description. In fact, it should be termed a *congeries*—not a class—since the latter term implies similarity on the part of those who constitute it. The Freshmen, however, are so unlike, that they never approximate throughout the whole of their course.

\* "Savage Africa." Amer. Ed., p. 289.

† "Philosophy of Storms," by James Espy.



One can not even compare them to the Asymptotes of the Hyperbola, which, although destined never to meet, do yet continually approach. A certain portion have within them a positive, an impellent and progressive power; they are the embodiment of intelligence and energy. The force which influences the majority of their colleagues is negative, retardatory. And yet men who have themselves passed through college, and obtained in after-life the power of rectifying the matter, will still proceed upon the fallacious assumption, that students of abilities and attainments so utterly different may profitably pursue the same course and attain the same proficiency.

The democratic principle is carried out, and, in defiance of fact, it is supposed that "all are born equal" in respect to intellectual capacity.

We give our own experience, although with a pang; for we cannot but contrast what was with what ought to have been. The course was begun with forty odd in company. Some were amply prepared. They were competent to *read* and enjoy the classics—to derive from them the higher advantages which arise from their study—to observe how the thoughtful minds of olden times were occupied; how earnestly and yet how vainly they searched for religious truth. They were ready to learn the lesson which is so important to be learned in our day, and which is taught by no other method than that of classic study with equal impressiveness, that the noblest intellect can not by searching find out God—that the most admirable human culture is not a motive-power of sufficient strength to make men holy. They had learned to decline, to conjugate and scan, in years gone by, and much of what was brought to their attention was entirely familiar, and as superfluous as the daily recitation of their A B C would have been. For other some, it was required of a professor to show compassion. It is a fact that at least one member of the class, of which we speak, was unable to pronounce the Latin words which he was required to translate. How tenderly the shepherd was obliged to guide such wandering sheep!

Now, what was the result of the system which brought together these very unequal elements?

Much of our time was occupied in listening to excuses based on the text of "Not prepared to-day, sir;" or, on those few and far-between occasions, when the reverse was *supposed to be true*, having our risible faculties called into play at the expense of our intellectual. Tragedies became serio-comic under the singular treatment they received. Grammar ceased to be dry, and prosody was made entertaining. Science was made ludicrous as well as entertaining, and an effort at triangulation baffled the gravest intentions. Doubtless this threw a charm over college-life; it might be that the occasions of merriment alluded to were, to some minds, the green and refreshing oases of their wilderness march. But the object seriously proposed was largely interfered with. We made far less intelle-

tual progress than was easily possible. Instead of being wholly *read*, classic authors were partly parsed. The whole of a play was never perused. The intelligent members of the class were impeded in their efforts, like the prisoner fettered to a corpse. Judging of the experience of others by our own, the system of democracy operating in the college, is productive of nothing but harm. Industrious intelligence is positively hindered, by indolent ignorance, from accomplishing its maximum. Like the giant and the child when forced to walk together, the representatives of the former are obliged to shorten their steps in accordance with the abilities of their companions. Why do not our school conventions revolutionize the prevalent state of things, and remove one of the very great reasons for that want of thoroughness which so lamentably characterizes our collegiate education? We flatter ourselves that we are far in advance of the nations of Europe in every thing that concerns intellectual progress. The barbarians come over to this side of the Atlantic to be civilized. The light of knowledge shines, as does the sunlight at the close of day, only in the regions of the West! And yet we have so far humiliated ourselves as to receive some ideas from the old-fogy world. They have made for us the discovery that the earth revolves around the sun, and in other branches of science have made, we must allow, no inconsiderable progress. Why may it not be possible that they have some sound notions which would bear importation in reference to the matter of education?

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### THE SCHOOLMASTER M.D.\*

In the State of New York ('tis a long time ago)

A great operation occurred:

I am speaking the truth, and I'd have you to know

That I am quite willing to swear that it's so,

Or affirm, if you dare doubt my word.

'Twas at Greenwich the school-house I'm speaking of stood—

A battered old shanty, I vow;

Though 'tis twenty years since, it is standing there yet,

On an island not round; if you go there, I'll bet

You will find it the same even now.

And in it, most likely, a hard set of boys,

All ready for any high game;

And of girls, too, quite willing to share in such joys:

All ripe for a frolic and fond of a noise;

In youth, you and I were the same.

\* This "Case of Discipline"—written by our contributor, R. W. Hume—is copied, with permission, from *Harper's Weekly*.

But just at the time I am writing of now,  
The building was cheerless and lone;  
The windows were broken; and only a cow  
Seen grazing beneath the old willow-tree bough,  
Or a mangy dog gnawing a bone.

And the reason no Busby would take it in hand  
Was because of the tales that were told;  
How Jack's finger was cut, and Joe rolled in the sand  
By the widow's son Dick, and the Hollingshead band  
Were licked by Tom Raynor the bold.

Then duly next morn came the mothers to pray  
That the teacher would cowhide them well;  
Or if Dick and Tom Raynor were not sent away  
They wouldn't send Johnny nor Joe ne'er a day,  
And would take away Kitty and Bell.

Poor teacher! Each day he was bothered and pained  
To settle the wars of the eve,  
Till, with patience exhausted, he fairly complained  
"No mortal could stand it;" and further, proclaimed  
"That he had determined to leave."

'Twas long ere another was willing to try  
The place thus vacated and lorn,  
Till a grave learned Doctor, who that way passed by  
And heard of the trouble, without if or why,  
Declared he would work a reform.

Being duly installed in the schoolmaster's seat,  
The day passed without any rub;  
But a friend sent next morning a note short and sweet,  
To hint that a stick was no weapon discreet,  
As his boy had been struck with a club.

'Twas read; and the boy was called forth rather gruff,  
And asked to exhibit his wound.  
So, sniv'ling and wiping his nose on his cuff,  
Georgy Williams his trowser pulled up with a snuff,  
And held out a leg which was sound.

"Is it here?" said the teacher; "why, this is a burn."  
"Oh no, sir; 'tis here on the shin."  
"Tis a very grave case," said the Dominie stern;  
"It might have been fatal." Though, reader, you learn  
It scarcely discolored the skin.

"Why, Georgy, my son, did you walk to the school?  
I declare it was rash so to do.  
But as you are here you must sit on this stool,  
And hold up your leg like a parallel rule  
To the maps which hang here in your view."

Then taking him gently with tenderest care,  
In a loving and fatherly manner,  
He called for a cushion, and then for a chair,  
And seating poor Georgy, he placed his leg there,  
And bandaged it with his bandana.

On further inquiry, the Dominic found  
The name of the other young sinner  
Who struck the foul blow; and in justice was bound  
To call for his aid when the play-spell came round,  
To bring Georgy Williams his dinner.

And he made him all day like a lucky to stand,  
Or a priest doing penance for sins;  
To hold Georgy's slate, and to place in his hand  
Ev'ry book he required. While Georgy, right grand,  
Sat in state,—like a monarch on pins.

With his leg for a sceptre, stretched out on a chair,  
He sat through the ne'er-ending day;  
While Harry, the villain, did wait on him there,  
And with rueful compunction his sorrow did share,  
For neither could go out to play.

And when studies were o'er, lest the lame little lad  
Should be to his sister a drag on,  
The Dominic said, She must speak to her dad  
To gear up his horse, as the walking was bad,  
And send down for George the light wagon.

Next morning the patient all rosy appeared,  
Declaring his trouble was o'er.  
And when his preceptor's inquiry was heard,  
"How's your leg, Georgy Williams?" he stoutly averred  
"It was better than ever before."

And in the prescription such virtue was found  
(If you use it I don't care a peg),  
That no child ever threatened, while playing around,  
To tell of a hurt got on Greenwich school ground,  
But was met by the cry, "How's your leg?"

## THE STRAIGHT MARK.

## CHARACTERS:

MR. RUSSE, a new teacher.

RICHARD, SAMUEL, WILLIAM, JAMES, } School-boys.  
HENRY, NICK, NED, and others,

SCENE—A School. Teacher at his desk—Class before him.

Mr. Russe. The class will now recite in arithmetic. Books aside. Those at the seat will work the examples on their slates. Richard will take the board. [RICHARD goes to the blackboard.] I shall give you, this morning, an original example suggested by the recitation.

James. I can't do these sums, Mr. Russe.

Mr. R. Can't! Was that your word?

Henry. They're awful hard, Mr. Russe.

Mr. R. Very hard you mean; not awful.

Samuel. [Whispers.] Bill!

William. Hulloo!

S. Play ball after school?

Mr. R. Some say they can not do the examples. Let us try one of them. Attention. [Reads.] You have 18 bushels of corn at 48 cents a bushel— [RICHARD writes on the board; the other boys, on their slates.]

W. [to SAM.] I speak for first base.

Mr. R. [Reads.] 8 bushels of rye at 52 cents—

S. [to WILLIAM.] I'm pitcher.

Mr. R. No whispering! [Reads.] 4 bushels of wheat at 85 cents—

H. Say, Sam.—Look out, he's looking

Mr. R. Samuel, are you whispering?

S. I am not, sir.

Mr. R. Were you? That, of course, is what I mean.

S. When?

Mr. R. Just now, when I looked up.

S. No, sir.

Mr. R. Have you been?—that is, since we began the recitation.

S. Yes, sir.

Mr. R. A boy who tells the truth is a good boy. It seems that a good boy may be inattentive. [NICK draws a variety of trifles from his pocket.] Samuel will attend.

S. Yes, sir. But I can't understand.

Mr. R. Richard will try to make it clear presently—[Reads.]—And would mix the whole with grains worth, one kind, \$1 $\frac{3}{8}$  per bushel. [CHARLES takes some of NICK's playthings, and NICK snatches for them.]

Nick. Here!—give me those!—

Mr. R. Boys! Nick, where's your slate? [NICK takes his slate. MR. RUSSE reads.] The other at \$2 $\frac{1}{8}$  per bushel—

*H.* [whispers.] Say, Sam, didn't the Atlantics do the big thing? Twenty-seven to seventeen! [*SAM shakes his head and looks at the board.*]

*J.* [whispers.] Hoh, the Eurekas can beat 'em any day.

*Mr. R.* Whispering again! Come, come! Attend to the example. [*Reads.*] *How much of the grain at  $\$1\frac{2}{10}$  per bushel, and of that at  $\$2\frac{1}{10}$  per bushel—*

*J.* [whispers.] The Actives thought they were going to—[*Mr. Russe looks that way.*]*—Mr. Russe, how do you begin that sum?*

*Mr. R.* The explanation will be given in a minute. [*Reads.*] *Must you mix with the other three—*

*J.* [whispers.] The Actives thought they would do the soft thing when they played with the Eurekas—

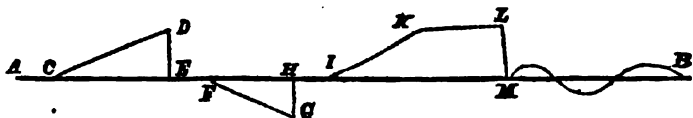
*Mr. R.* [sharply.] Attention!

*J.* [aside.] *Mr. Russe is getting up steam, ha! ha! ha!*

*Several Boys.* Ha! ha! ha! [*NED strikes at NICK with his slate, and the slate falls to the floor.*]

*N.* Get out! [*NED looks innocent.*]

*Mr. R.* [*Rising from his chair and facing the class. All attend. He goes to the board and draws the following figure:*



*Turning to the boys.*] Do you see that straight mark, AB?

*All.* Yes, sir!

*Mr. R.* That represents the study or recitation hour. Now, if you should begin at A—as some of my boys here do—and attend to your work right through to B, you would, with rare exceptions, have your lessons from to day. But you do not so attend. Some of you begin at A and study on to C, when the thought of something else pops into your head—some kind of amusement, a base-ball match perhaps—and off you go from the straight line of attention to your study to D. Suddenly you remember that you have a recitation before you, and down you come to the straight line again, having lost time however, from C to E.

*S.* Mr. Russe, you've told us that a perfectly straight line can't be drawn.

*Mr. R.* I'm glad you remember it, Samuel. But that is now a departure from the straight line of attention to what we are considering. It is like the departure noted by the line FGH, by which we lose the line FH. Nick, what are you doing?

*N.* He keeps getting my things.

*Mr. R.* Ah, now you are going towards K! Nick, do you see—does the class see, that Nick and Ned are losing time by turning their attention to something else?

*Boys.* Yes, sir.

*S.* We are all losing time, too.

*Mr. R.* Certainly. Put those things into your pocket, Nick. Now, suppose we go back to H. You begin there to study again, and you attend to work till you get to I. There the thought of something else pops into your mind—a big apple you're going to eat, perhaps—

*All* Ha! ha! ha!

*Mr. R.* You think about the apple, and all the while you are going away from AB towards K, and there you think of something else—a new bat, perhaps. Is it not so?

*Several.* Yes, sir.

*Mr. R.* Well, you think about the new bat till you get to K, and then you get into a boyish reverie, in which you keep on thinking of apples, and bats, and balls, and other things, till you are suddenly started by the remembrance of your lesson; so back you dart to the straight mark and try to be attentive; but thoughts of balls, and apples, and bats, and games, mingle confusedly with the matter of the lesson, and that is represented by the curved line from M to B. Do you see?

*Boys.* Yes, sir.

*Mr. R.* Now sum up and see what you have lost. All that part of the study or recitation hour from C to E + F to H + I to M + fully  $\frac{1}{2}$  M to B!—about  $\frac{2}{3}$  AB—that is, about two-thirds of the time. Is it a wonder you come here and say *Can't*? Away with the word! *Can't!* *Inattention* rather. When you meet with difficulty, work at it. If in due time you don't succeed, then come to me. But never again say *Can't*. Now for the remainder of the example. So much as I have read, Richard has on the board. Those who have been inattentive may copy it on their slates. [*Reads.*] *That the mixture may be worth a dollar a bushel.* [*All the boys give close attention, copying the example on their slates.*] I wish to leave the room a few minutes. I shall expect you to be attentive and to behave yourselves. [*Exit.* *Boys maintain order and work at the example.*]

*J.* [*presently.*] I've got it!

*H.* So have I. Mr. Russe rather got us on that line—

*S.* Hush! Don't whisper! [*Silence again.*]

[*Enter Mr. Russe.*]

*Mr. R.* Boys, your conduct pleases me. So let it ever be! How many have finished the example? [*Nearly all raise their hands.*] Very well. Now can you tell me what other lesson you have had this morning?

*All.* The Straight Mark!

*Mr. R.* True. And what have you learned by it?

*All* [*together*]. To be attentive—never say can't—keep to the mark!

*Mr. R.* Will you remember it?

*All.* Yes, sir.

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## SCHOLASTIC RIGHTS AND DUTIES OF PARENTS.

**R**IGHTS and duties are inseparable ; they must be accepted or rejected together. In the case under consideration they center on one common object, namely, the welfare of the children ; and since they have but one end, it is evident that they should operate together. Separate them, and in many cases they may and do nullify each other ; unite them, and almost any thing desired can be executed.

Education means simply "leading forth." Physical education may be compared to the attention given to the proper construction of the human locomotive ; intellectual education forms and develops its motive-power, and moral education applies this power to its proper use—instructing it how to labor for the common good of society. It is yet very questionable whether these portions of one whole can wisely be separated and placed under different delegate authorities. It is certain, however, that they all center under the proper charge and special supervision of parents.

Notwithstanding this general admission, it is singular, and much to be regretted, that both here and in Europe, many if not most writers on the subject of education ignore or forget the use of parental power. Their strictures refer to children and teachers, whilst the rights and duties of parents are very rarely discussed. To make no use of these highest natural authorities, is to set them aside as worthless. Is this wise ? Consider how important a part for good or evil home education is constantly performing !

First, then, parents have supreme right over their children. Any other authority exercised by the State, city, or another individual, is only delegated. Penalties for neglect of duties by parents or their delegates are therefore naturally and rightly visited upon the former in after-life.

In order to make a proper choice of a delegate, parents have a right to enter a school during working-hours. The capacities of children are so various, that the abilities of a teacher cannot always be correctly estimated by an examination of his pupils. One hour's careful inspection of a school in action will give a better idea of the trustworthiness and capa-



bility of a teacher, than a volume of regulations, or a yard of printed references. To neglect this duty, is, on the part of parents, a serious error.

Parents have no right to expect more than a simple recognition of their presence in the school-room, inasmuch as teachers are paid for the use of their time, and have no right to appropriate the time set apart for tuition to other purposes than those for which they are remunerated.

It is not wise for parents to take counsel of their children with regard to what school the latter prefer, for it is natural in them to prefer play to study.

If parents wish their children to respect a teacher and to improve under his training, they will do well not to relate their own youthful delinquencies and school pranks, in the presence of their little ones, unless they desire them to be imitated, with additions and improvements, first at school, afterward at home.

It is miserable policy on the part of parents to threaten children with the school as a place of punishment. It forms a barrier which must be removed before children can pass up the hill of knowledge.

Having selected an instructor, it is the duty of the parents to support his ordinances as supreme laws over their children at home, as well as at school. Any clashing between parental and scholastic authority is productive only of evil.

When parents can be relied upon, teachers can render the simplest home deprivations the most effectual punishments. Latitude in amusement should always be regulated by high or low standing in the school.

When parents neglect their duty, they set before their children a lesson in negligence. To forget to sign the weekly report, is to lead them into paths of disorder and disobedience. It is an unmanly wrong done to the teacher, and a grievous injury to the children.

Parents who, to please themselves, sacrifice their children to ignorance, by constantly writing excuses for their lessons, are very reprehensible. Three regular exemplars of this crime are sufficient to demoralize a school.

The public will is, in this country, supreme. Parents should understand that they form and model the systems in operation in our public schools. If they demand the right to elect politicians to perform solely their proper parental work, they have little right to complain if it be ill done. In private schools the same carelessness on the part of parents, as to the use of the right of their supervisory powers, begets carelessness in the children, and sometimes in the teachers. For the many aberrations

which spring from this neglect, fathers and mothers, the blame rightly rests on yourselves.

Oh for some Horace Mann to publish a work on this subject ! Principals of Schools and Teachers have been lectured, addressed, written to and written at, in order to post them well as to the best methods of performing rightly their parts in the great work in which they are engaged. Volumes upon volumes have been addressed to children and youths with the same purpose and intent. Alas ! even in our most elaborate educational compilations how short and how few are the paragraphs devoted to the instruction of parents with regard to their duties ; how little care has been taken to obtain their co-operation, or to secure their aid and power over their families as instruments requisite to and necessary for the full development of all that is worthy of commendation in any system, either of public or private school education !

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#### TEACH PRINCIPLES.

PRINCIPLES are few, and widely applicable. Details choke the world with fullness, while but few can be acquired individually. A principle explains and prepares the way for the acquisition of a multitude of details. Let more of principles, then, be taught, and fewer isolated facts which point—*somewhere*. Put a principle into a child's consciousness, and he will inevitably acquire the corresponding details easily and orderly. And, animated by a spirit of intelligent inquiry, wherever he goes in God's beautiful world, he will have eyes open to see, and mental hands to reach out and take hold of, and classify, and understand, and possess.

Do away with details ? No ! introduce as many of the most important as possible. Introduce them by incidental remark, by talks, by lectures ; but do not *cram*. Many an ambitious pupil *crams* for the highest grade ; and, when graduated, is stuffed, not taught, overloaded with unclassified facts—not educated. Often he is mentally burst and physically broken, and, after all, knows much less than that obscure pupil far down in the class, whose eyes have gleamed as a living principle has flitted past him, to be inquired about, but lost for want of time—or caught, perhaps, in that momentary flash, and made his own.

We need a great reformation here. We must come back to generals, in order that we may get details into the pupils' minds in an orderly and

practicable manner—in order that the pupil who graduates first may not be the broken-down hack of the class ; and that he who does not graduate first, may be the one whose mind is dullest at perceiving principles. We do not assume that principles are not taught in our schools ; but they are not taught characteristically, while details are.

Much is said about cultivating individuality in pupils. But the common mode of teaching details ignores individuality. Details are acquired by the mechanical memory—a faculty differing in scope, among pupils, but by no means individualizing. The thinking power, it is, that individualizes. Principles demand thinking. So do details, when they are acquired by the philosophical memory after being classified by principles ; but not as taught apart from the consideration of principles first.

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#### CHARACTER.

IF the human mind were a passive recipient, its worth might be estimated by the amount and quality of its contents. But mind is active. It converts crude knowledge into power, and power is a blessing or a curse according as it is used. If individual character is properly developed, and fortified by correct habits, knowledge is beneficent and can not be too largely increased. But if character is undeveloped, or unbalanced, or perverted, every increase of knowledge serves but to increase the means and opportunities for doing evil.

An honest citizen, though unlearned, is worth far more to the State and to society than the most accomplished rascal. While for personal happiness no amount of information will atone for a lack of wisdom ; and wisdom depends not merely upon the amount and kind of knowledge possessed, but upon character, which insures its proper use.

It is a question, therefore, whether our splendid appliances for wholesale instruction are the best possible means for the education of children.

The great object sought in them—and, in fact, the only object that can be successfully attained by teaching *en masse*—is the dissemination of knowledge. That which is of far greater importance to the individual and to society, the formation of correct habits, the implanting of correct principles, and the rousing of generous impulses, is thrust aside, as being without the sphere of the teacher's duties.

We know that it is rightfully the parent's duty to attend to this part

of education. But many parents are incapable of doing it ; many others are too negligent to do it ; while no small proportion even of those who are capable of doing it, shirk their responsibility by sending their children to distant schools, during the entire period when they most need parental supervision, and are most susceptible to its influences. The consequence is, if this work is not done by teachers, it is rarely done at all ; and where the school system largely excludes such training—as in our cities and large towns—we have multitudes of children who are *smart*, but are neither virtuous nor honest. So long as the development of character is sacrificed for greater development of brain, just so long will our educational system prove a disappointment ; and we have but ourselves to blame for the result.

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#### THE YEAR.

IN educational affairs, radical changes are of rare occurrence. Progress is generally made by stages almost imperceptible ; and at the end of a period so brief as a year, it is difficult, if not impossible, for a casual observer to detect any change.

As in a forest growth, the general appearance may not be perceptibly affected, yet one who has spent the year within its shadow, may discern here the beginning of a mighty tree, or a slender twig, the promise of a thrifty branch ; there, a last-year's shoot untimely withered, or dead tree fallen, while everywhere are evidences of a constant though immeasurable growth : so in the wide field of education, though there may be little apparent change since the year began, we know that change has been incessant. And though cherished projects may have failed, though new evils have crept in, and old evils have been unsuccessfully assailed, we are persuaded that over all there has been progress—that the aggregate result is improvement.

Would that it were greater !

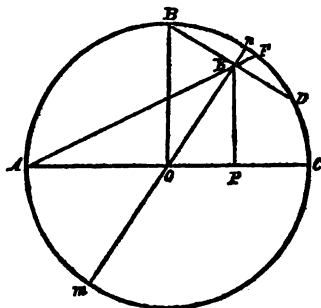
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THE ancients educated their children not merely by talking to them, but also, and especially, by means of examples and actions ; in order that what they acquired might remain in their minds, not as a science, but as a nature and custom inseparable from them—not as a thing learned, but as an inherited possession.—*Montaigne*.

## EDITORIAL MISCELLANY.

**A** DEMONSTRATION of the following construction was given in our last number. It was received after our usual time of going to press, and hurried through with too great a reliance upon the reputed ability of the contributor and the accuracy of the proof-reader. We have in consequence to apologize for errors, typographical and other, which unfortunately escaped our notice.

*To construct within a Circle a Line whose Square shall Approximate to the Area of the Circle.*



Take the radius of the circle as the unit of measurement. Draw the radius OB at right angles to the diameter AC. From B draw the chord BD, equal to radius; bisect it at E, and, through E, draw the chord AF, which is the line required.

Through E draw On, and EP at right angles to AC. Since  $BD = R$ , it is the side of an inscribed hexagon, and therefore the arc  $BD = 60^\circ$ .

The following results are derived :

Arc  $Bn = 30^\circ$ . Angles BOE and OEP each equal  $30^\circ$ . Angles EOP and OBE each equal  $60^\circ$ .

$$BE = \frac{1}{2}BD = \frac{1}{2}R = \frac{1}{2}. \quad OE = \sqrt{OB^2 - BE^2} = \sqrt{1 - \frac{1}{4}} = \sqrt{\frac{3}{4}} = \frac{\sqrt{3}}{2}.$$

$$\text{Triangles OEP and OBE are similar} \therefore OB : BE :: OE : OP \therefore OP = \frac{OB \cdot OE}{BE} = \frac{1 \cdot \frac{\sqrt{3}}{2}}{\frac{1}{2}} = \sqrt{3}.$$

$$AE \times EF = BE \times ED = BE^2 = \frac{1}{4} \therefore EF = \frac{1}{4AE}.$$

$$\text{But } AE^2 = AO^2 + OE^2 + 2AO \times OP = 1 + \frac{3}{4} + 2 \times \frac{\sqrt{3}}{4} = 1 + \frac{3}{4} + \frac{\sqrt{3}}{2}.$$

$$\therefore AE = 1.6174131827 \dots$$

$$EF = \frac{1}{4AE} = 0.1545678016 \dots$$

$$AE + EF = AF = 1.7719809844 \dots$$

$$AF^2 = 3.141592653 \dots = \text{area of circle.}$$

The contributor of this simple and excellent demonstration justly says : "So nearly does the result approximate to  $\pi$ , as obtained by the usual methods, that the question is well put, whether this construction would not give us the *exact* value of  $\pi$ , if only the value of  $\sqrt{3}$  could be ascertained ; in other words, whether the square constructed on chord AF is not really equal to the area of the circle."

## EDITORIAL CORRESPONDENCE.

**M**R. EDITOR—Some time ago you spoke of exposing in your *Monthly* some of the absurdities taught in our schools. From what you said at that time, I supposed that you had in course of preparation a series of articles on that subject. If some person would begin with the Primary school, and set in the light the stupidity of teachers there, and follow on through the Intermediate and Grammar departments to the academies and colleges of the land, much good might be done for the public, and the interests of the pupils would be well served.

Because the articles to which you referred have not appeared, I now speak. I am not on the course. I am too old to go down to the fight, but by the light of past experience (I have lived longer than the time allotted to one generation), I may be able to see the bearing and results of some plans that may not be apparent to the more youthful.

It is absurd to despise the English language. This is done by nearly all classes of people in this country—by teachers in our public schools and academies, and by professors in higher institutions.

The boys and girls that compose the great majority of our schools have not time to learn the dead languages; yet if they expect to maintain a respectable standing, they must devote a large share of their precious time to acquiring what to them will be absolutely valueless. According to the present state of public opinion, a year or two of Latin will atone for ignorance of the English language, miserable penmanship, ignorance of ordinary business transactions, ignorance of Latin itself, and, in short, for general stupidity. One who has taken his "course" in Latin and Greek is thought to be master of great mysteries, however superficial his knowledge of these languages may be. His pedantry is encouraged, though he cannot correctly translate a line not previously taught him. This ignorance is more common than most people suppose.

I care not how extended a course of study may be, if, when completed, the pupil have not a thorough and exact knowledge of the English language in regard to reading (as but few can now read), spelling, grammar, rhetoric, English classics, and history, and unless he have power to write his thoughts, as well as to give oral expression to them, in proper words, such a course is not fit to be recommended to American youth.

Do not understand that I object to the study of any or all languages except our own. Not so. But nine-tenths of those who commence the study of Latin and Greek would receive much greater benefit by devoting their time to the study of natural history, practical business transactions, and the English language as it is *not* taught in our public schools, academies, and colleges.

One word on the Teachers' Association at Geneva.

Your criticism is severe. I will not say it is unjust. But you use the names of two ladies, who stand high as teachers of elocution, rather too lightly. I cannot think their readings were out of place at an association of teachers, though such exercises should not form "the main attraction."

The responsibility for lack of vigor in the association lies with the officers who had immediate charge of its meetings, though they cannot justly be charged with intentional wrong.

The local committee and the people of Geneva were very kind; and I think they must have been amused and amazed at the display of capacity for entertainment by the teachers.

The officers of the association, at the outset, should have given all to understand that the teachers had met for the transaction of business, according to programme; and the very kind attentions of those who would divert the association from its proper course, should have been politely declined.

Many of the teachers saw the lack of proper management with mortification. Some who very much desired to speak on the few practical questions presented, could not do so for want of time; and at least one important topic on the programme was passed by for the same alleged reason.

We hope for better things next year at Auburn. I hope you will go, even if you take your "ax" along, and have but a psalm or song to edify or amuse. Very respectfully,  
T. O. GARFOOTE.

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**M**R. EDITOR—The ill-tempered letter of F. S. J., in the November number of the Monthly, reminds one of the homely proverb concerning the impropriety of stone-throwing on the part of those who live in glass houses. He fails to see that the invectives which he hurls at your critic and his supposed theory of grammar, may and do rebound to the destruction of his own theory. Caring little for Clark's Grammar, and still less for most others, I am interested in this controversy only so far as it affords an excellent illustration of the general inefficiency of grammatical teaching.

The critic's assertion that it does not make good *practical grammarians*, or, in other words, that it does not enable pupils to speak and write the English language with elegance and propriety, is strictly true. But, protests F. S. J., assuming that the charge is made especially against his favorite system, "Nine-tenths of the current teaching of grammar is the product of systems and text-books that have been from time immemorial (!) utterly oblivious of the analysis it (the review) condemns; and the defect, therefore, is not due to the existence or influence of Clark's Grammar." Evidently, the reviewer did not mean to say that it is due to Clark's Grammar; he merely stated, generally, the fact which F. S. J. tacitly admits to be nine-tenths true.

Now, is there any good reason for excepting the other tenth? Are the disciples of Clark remarkable for the use of correct, elegant, idiomatic English? The pedantic style of the champion of Clark's system certainly does not afford much reason for attributing any peculiar excellence to its influence. So perfect is his command of the school-boy militant style, that one might almost be justified in supposing that he had acquired his knowledge of English composition entirely from the study of the essays of "juniors," with, perhaps, a slight acquaintance with the letters of "Junius."

The truth is, both F. S. J. and your critic are wrong. They assume that "English grammar teaches the proper use of the English language,"

and then find fault with this or that text-book, because those who study it do not, in consequence, become good writers.

The fault lies deeper, and a radical change must be made in our teaching before we can justly expect satisfactory results. Our grammars teach a good deal *about* the English language—though, unfortunately, much that they teach is not worth knowing—but they do not teach pupils to “give thought graceful and proper expression in words,” simply because language is not a thing to be learned by rule or precept. We might as well expect to teach a child to dance by making him repeat the names and uses of his bones and muscles, as to expect him to become a master of his mother tongue by such exercises as *John is a noun, proper, third person, singular number, masculine gender, and in the nominative case.*

Very respectfully,

Here, November 10, 1866.

R. S. J.

## SCIENCE AND THE ARTS.

—M. Favre thus describes the process by which he supposes silver to be transmuted into gold. A certain quantity of pulverized chlorid of ammonium is dissolved in aqua ammonia. If the solution be turbid, it must be filtered; chlorid of silver, perfectly white and humid, is then added and the bottle well shaken. The chlorid of silver is dissolved, the solution becomes yellow and deposits a precipitate of the same color, which must be collected carefully. The characteristics of this powder are: 1. When introduced into aqua regia it is completely dissolved, and a new addition of ammonia precipitates it; 2. it is not fulminating; 3. it furnishes gold when placed between the poles of a Bunsen or Grove battery.

—According to a German author, the number of useful plants has risen to about 12,000; but it must be remembered that these researches have been completed only in certain portions of the earth. There are no less than 2,500 known economic plants, among which are reckoned 1,100 edible fruits, berries and seeds; 50 cereals, 40 uncultivated graminaceous seeds, 23 of other families; 250 comestible rhizomes, roots and tubers, 37 onions, 420 vegetables and salads, 40 palms, 32 varieties of arrow root, and 81 sugars. Vinous drinks are obtained from 200 plants, aromatics from 266. There are 50 substitutes for coffee, 129 for tea. Tannin is present in 140 plants, caoutchouc in 96, gutta percha in 7, resin and balsamic gums in 389, wax in 10, grease and essential oils in 330; 88 plants contain potash, soda, and iodine, 650 certain dyes, 47 soap, 250 fibres which serve for weaving, 44 for paper making, 48 give materials for roofing; 100 are employed in building; 740 are used, and there are 615 known poisonous plants. According to Endlicher, out of the 278 known natural families, only 18 seem to be perfectly useless.

—It appears that Canada is no longer entitled to be considered as the sole depository of the earliest fossil hitherto discovered. Recent laborious researches made by Professor Hochstetter, of Vienna, have resulted in the discovery, in the calcareous limestone of the Krumman, of undoubted specimens of Eozoon, in all respects similar to those found in Canada.



**NEW PROCESS OF MAKING STEEL.**—M. Galy-Cazalat has discovered a new process for the rapid conversion of cast iron into homogeneous and pure cast steel. It is known that pieces of steel cast in moulds are full of cavities, considerably weakening their tenacity. The rolling or hammering required to cause an adherence of the particles of the metal is very costly, and sometimes impracticable. It occurred to M. Galy-Cazalat to cause these cavities to disappear by submitting heavy guns to great pressures produced by gases while the metal is still in a fluid state, in the moulds of sand, firmly bound by strong frames of iron of suitable resistance. For this purpose, immediately after the casting of the complete cannon, the whole is covered hermetically by a metallic cap, screwed firmly to the framework of the mould. The cap carries a vertical tube, furnished with a cock at the lower extremity, and closed at the top by a less resisting membrane, or safety diaphragm. It contains six to ten grammes of powder, without sulphur, composed of eighty parts of saltpetre and twenty parts of charcoal. The imprisoned gases under the cap exert on the surface of the liquid steel a pressure, which is transmitted simultaneously and regularly through the entire mass of the cannon, effectually effacing the bubbles, and increasing the tenacity of the metal, which is the same throughout. By this process he succeeds in avoiding many of the difficulties incident to his own and to Bessemer's method of making cast-steel, one of which was, that the steel produced by them had to be re-cast so as to become homogeneous and of superior quality, which second operation, carried on in crucibles containing 44 pounds, doubled the cost of homogeneous cast-steel.

—Dr. Reichenbach, of Vienna, thinks that there exists throughout space a cosmical powder, or dust, which sometimes becomes agglomerated, so as to form meteorites, and at others reaches the earth as an impalpable powder. Meteorites are composed mainly of nickel, cobalt, iron and phosphorus. Some dust, collected by Reichenbach on a mountain top, previously unvisited, gave, upon analysis, nickel, cobalt, phosphorus and magnesia. Dr. R., therefore, thinks that we have an invisible rain of meteoric dust, from which is derived the minute quantity of phosphorus, so generally distributed over the earth, and so necessary to vegetation. This hypothesis is very pretty, but not yet established.

—Fine coloring matters, soluble in fatty matters, paraffine, and similar hydrocarbons, and capable by mixture of producing any number of intermediate shades, have been discovered in the form of metallic soaps. They are obtained by precipitating various metallic solutions with soda soap. In this way the salts of iron afford a brown orange stearate; those of copper, a malachite green; those of nickel, an emerald green; those of chromium, a green which changes to violet; those of uranium, a bright yellow; those of cobalt, a lilac; and those of manganese, a rose red.

—A new use for the products of the distillation of petroleum and coal has been found. The resulting volatile hydrocarbons have the property of dissolving all the more common vegetable oils, as palm oil, olive oil, linseed and rape-seed oils, and the like. The seeds or fruit containing the oil are first crushed or ground, and digested with the hydrocarbon in hermetical vessels. The oil is gradually taken up by the volatile agent, which is afterward driven out by distillation. The solvent is condensed, and thus very little loss results, while the yield of vegetable oil is from 40 to 50 per cent. more than by pressure.

## EDUCATIONAL INTELLIGENCE.

## EASTERN STATES.

**MAINE.**—The Agricultural College will go into operation next spring.

**MASS.**—Lee Claflin has given \$25,000, and his son, Lieutenant-Governor William Claflin, \$10,000, to endow the Methodist Theological Institute of New England.

**CONN.**—Mr. Peabody has given Yale College \$150,000, for the purpose of establishing a scientific museum.

## MIDDLE STATES.

**NEW YORK.**—In October, Loring Andrews, Esq., of this city, gave \$100,000, and two other gentlemen \$10,000 each towards the endowment of the University of the City of New York. The total endowment of the institution is now nearly \$500,000. We are gratified to record the prosperity of this University, whose claims upon the public are excelled by no other. To one of its professors, Morse, we owe the telegraph; to another, Draper, we owe the daguerreotype, and another, Loomis, now of Yale, published, during his connection with it, one of the finest mathematical series in the English language.

—The Finance Committee of the Board of Education of New York city estimate their expenses for 1867 at \$2,522,000, of which \$1,580,000 are for teachers' salaries. The salaries of teachers are as follows:

**Male Departments.**—Principals (based on attendance of pupils) from \$2,000 to \$3,000; Vice-Principals, \$1,800; Male Assistants (average), \$1,200; Female Assistants (average), \$675.

**Female Departments.**—Principals, \$1,200; Vice-Principals, \$900; Assistants (average), \$600.

**Primary Schools.**—Principals, \$1,012.50; Vice-Principals, \$790; Assistants (average), \$450.

Special teachers are paid for the time actually employed.

## EVENING SCHOOLS.

**Male Departments.**—Principals (per night), \$3.50; Male Assistants (per night), \$2.50; Female Assistants (per night), \$1.50.

**Female Departments.**—Principals (per night), \$2.75; Assistants (per night), \$1.50.

The salaries of teachers in Corporate Schools are regulated by the Trustees and Managers of the institutions in which they are employed.

## WESTERN STATES.

**ILLINOIS.**—The family of the late Jesse Funk have founded a library in the Illinois

Wesleyan University, to bear the name of their father.

**MISSOURI.**—Several regiments of colored troops have contributed nearly \$7,000 to establish a school at Jefferson City for the education of colored persons.

**CALIFORNIA.**—The Baptists are about to open a denominational school at Petaluma, under the charge of Professor Mark Bailey, and propose to raise \$40,000 for its endowment.

**OREGON.**—The number of schools in the State is 443—an increase of 100 in two years—with an average attendance of 11,144.

## SOUTHERN STATES.

**VIRGINIA.**—There are five free schools for whites in Richmond, and a Boston society has sent an agent to establish similar schools throughout the State.

—The Chesapeake Female College, near Fortress Monroe, is to be converted into a theological seminary for colored youth, under Baptist patronage.

**TEXAS.**—The Legislature is about to establish a State University; a bill for its location and construction has been introduced and referred.

## FOREIGN.

**ENGLAND.**—The *Educational Times* states that the important subject of university extension, by the establishment of colleges for poor students, continues to engage the attention of the authorities at Oxford. The sub-committee, provided over by the Rev. Dr. Shirley, recently appointed to consider the question, have made a report to the effect that a new college or hall must be opened to give the benefit of the university to a class of men who cannot now enter. They suggest that in the proposed establishment "the charge for tuition be £4; for furnished rooms, £3; for batells, £10 a term; Easter and Act terms to count as one, making £51 per annum. The payments for each term to be paid in advance. In the batells would be included breakfast, plain luncheon, dinner, attendance, and the general lighting of the college." Another recommendation is, that breakfast and dinner be in common, the principal and tutors being for the most part present at those meals. Economy being the essence of the scheme, it is provided that "if any member contracts debts beyond a certain amount, or be found to be forming expensive habits, he be requested to remove to some other

college or hall, as not being the character for which this foundation is instituted." Facilities are also to be given for remaining in residence out of term.

SCOTLAND.—The number of students attending the Scotch universities are as follows: Edinburgh, 2,400; Glasgow, 1,165; Aberdeen, 898; St. Andrew's, 869.

FRANCE.—The Senate has again rejected the proposition that ability to read and write be made a qualification for holding office in a town council, for the reason that in many small *communes* persons possessing all the qualifications, and able to read and write, cannot be found.

—Education is liberally supported in the Isle of Bourbon. At present, \$120,000—more than one-eighth of the whole revenue—is devoted to teachers' salaries. Primary instruction is gratuitous, and there is a great classical school, with five hundred pupils. The island depends upon France for its supply of teachers.

HOLLAND.—Secularization of the primary schools is much discussed in this country. Attendance upon school is neither compulsory nor gratuitous, but there are few children of the legal age who do not attend either government or private schools.

SPAIN.—The law provides for the establishment of schools, both male and female, in all parishes with five hundred or more

inhabitants, and attendance is compulsory. The poor receive free education. The law is not well enforced. Male teachers receive a free house and from \$125 to \$500 per annum, and female teachers receive two-thirds as much.

SYRIA.—A revival of education is in progress here. A correspondent of the New York *Tribune* gives the following details:

"In the reign of Justinian the law school of Beirut had a world-wide celebrity. To-day seven of the largest and most imposing edifices in Beirut are institutions of learning—four of them Protestant, two Papal, and one Greek. Of the four Protestant institutions, two are under American auspices, one English, and one Prussian. Of the American schools, one is a girls' seminary, a boarding-school of a high order, with fifty boarders, who paid during the past year more than a thousand dollars for their board and tuition. Though the teachers are all natives, no American need feel ashamed of this most flourishing school, whether it be in respect to the beautiful edifice which is its home, or its admirable internal discipline. The other is the Syrian Protestant College, with whose name many of your readers are familiar, and to whose endowment not a few of them have contributed."

Students are flocking to this college from all parts of the East, and even from Africa. Professor Blyden, of Liberia College, is now in attendance, studying Arabic.

## CURRENT PUBLICATIONS.

MR. MONTEITH'S "Physical Geography" has been before the public for several months, and has acquired no inconsiderable notoriety. It may not be amiss to review briefly some of its claims to public favor.

In describing its character, the author says that, avoiding the use of all technical terms that would perplex the young learner, he has endeavored to explain the leading principles of Geography by means of familiar language and comparisons, and suggestive illustrations, according to the Object system of instruction.

To exemplify his meaning, he refers to

two illustrations—one on page 18, the other on page 27. The first, he says, "explains the theory of Volcanic Action." This implies that there is but one theory of volcanic action. Perhaps the author has never heard of any other; or it may be that there is one, which, in his estimation, is preeminently correct; it is *the* theory. To learn what this theory may be, and how it is explained, we turn to page 18 and find—not a word about volcanic action. A typographical error, doubtless; for, looking further, we discover on the next page a picture of a young lady standing by a table and pointing at something described below as "A Cake which is burst open at the Top by the escape of Steam, arising from the Fluids within the Cake, the Heat of the Oven corresponding with that of

(1) MONTEITH'S PHYSICAL AND INTERMEDIATE GEOGRAPHY. Part I. Geography Taught as a Science. By JAMES MONTEITH. New York: A. S. Barnes & Co.

the Earth's Interior," while a boy and two small girls are looking on, apparently with great interest. All this, we are told, may illustrate a "Volcano, and Fissures caused by Earthquakes." Possibly it may, but it is not very clear; nor do we learn from it much about "the theory of Volcanic Action." That, however, may be owing to our inability to comprehend the correspondence of the "Heat of the Oven with that of the Earth's interior."

Perhaps the illustration on page 27 may be more fortunate. Turning to it, we see a youngster standing by a stove, with one hand resting on the cover of a teakettle, and the other gracefully extended to a group of children, to whom he appears to be teaching "Geography as a Science." The text informs us that the "Geysers or Hot Springs of Iceland may be illustrated by a kettle partly filled with water and placed on a hot stove." Then follows an elaborate account of a theory of Geyser action which was exploded years ago. If Mr. Monteith will take the trouble to read up a little on Modern Science, he will learn to regard less highly his "model illustration," and be persuaded, perhaps, to put his stove and kettle to some more appropriate use.

We believe in pictures. They are especially useful in a primary geography. But it is quite important that they give at least a tolerably correct idea of what they are said to represent. This does not seem to have ever occurred to Mr. Monteith. Of the sixty cuts that occupy so large a portion of the forty pages of Physical Geography, some are good; very many are indifferent, and are used, evidently, to fill up; while not a few, like the tea-kettle illustration, simply teach falsehood. We have room to refer but to one other, a wonderful picture in its way. It will be sure to delight the children. In fact, it is so juvenile in conception that we suspect our author must have "borrowed" the idea, if not the design, from some little boy's slate. We have seen many such pictures drawn by artists of tender years. It is on page 28, and represents, we are told, "A Sectional View from the Atlantic Coast of the United States, Northeastward to Norway." We never heard of a sectional view from a place before; but that may be accounted for by the fact that geography has never before been taught as a

science. We would advise our readers to examine this picture; they will see many marvelous things in it, not the least noticeable of which are whales five hundred miles long and sea-weeds twice as long as the whales, and other sea-monsters equally wonderful. But pictures are not the only notable feature of "Geography taught as a science." The familiar comparisons mentioned in the preface, are quite as remarkable and as worthy of commendation.

The first paragraph of the Geography affords a characteristic example. In it, the "process by which the world was made from chaos" (mark the word) is compared to the "Growth of a Plant!" One would think a single such comparison would be sufficient, even for the youngest learner. But not so. Paragraph II, endeavors to make the matter still clearer: thus—"The earth's formation from chaos may be illustrated by an egg, whose fluid substances, by a certain application of heat, and in a certain time, are changed into a beautiful living bird." Chaos is a fine point to start from. Its likeness to an egg is so apparent, and the analogy between creation and the process of incubation so complete, that the beauty and force of the figure will be recognized at once. Yet we fear that some inquisitive child may ask what *chaos* means, and how the world is like a beautiful bird—but what absurd questions will children not ask?

It would require an entire number of the MONTHLY to notice all the "familiar comparisons." A few examples must suffice.

Par. 13, p. 9, says: "All the fresh water of the land is raised (!) from the great reservoir, the ocean, by the combined agencies of the sun and air, acting like a great pump and sprinkler." For a matter of fact statement, this is a little mixed. It is not clear which is the pump, and which the sprinkler, or how a sprinkler can raise anything. Besides, we fear that the little boys and girls who live in the country and are unacquainted with city waterworks, may fail to appreciate the force of the comparison. Perhaps, however, the more poetical version of the great fact, as given in par. 16, was intended for them. It reads thus: "The sun, by his Powerful Light and Heat, so acts upon the sea, that thin fresh water, called vapor, is separated from it. The vapor, like a feather loosened from a bird, is borne upward by the atmosphere

and carried away by the wind!" Who will say that there is no poetry in science? or that the mysteries of nature cannot, without sacrifice of precision, be brought within the comprehension of children?

The following double-barrelled comparison is not brilliant or poetical; but it is marvellously clear, and contains a world of truth. It is found in par. 2, p. 42: "Soil that is destitute of Decomposed Animal and Vegetable substances is very poor; *such* was the condition of vegetable life at its commencement, and *so also* was the beginning of animal life—very inferior in character and form." This paragraph affords, also, a fair example of the learned style that our author largely indulges in. But he does not restrict himself to one style. He employs besides the *argumentative* style, the *inflated* style, the *figurative* and the pious style. Our space permits but a brief citation from each.

A fine specimen of the argumentative style is found in the "Introductory." This page is intended to prove that the world was made for a great purpose, according to a preconceived design, and also to show what that purpose was. It leads off in this manner: "The robin builds her nest in the tree for the *Purpose* of there depositing her eggs, and of bringing forth and protecting her young. For the *Purpose* of protection and comfort, men build houses, found cities and establish governments. *Purpose, therefore, leads to design and action.*" Without pausing to notice the awkwardness of the first sentence or the improper use of *purpose* in the second, let us observe the bearing of the whole upon the main argument. The robin builds for a purpose. *Whose* purpose—her own? Certainly not, for it is a characteristic of instinct (and nest-building is instinctive), that it impels to action without the existence of a conscious design on the part of the actor. Is it God's purpose? Then, what possible analogy can there be between the robin's action, which is determined by another, and the self-determining action of Divinity? The entire page is a model of illogical reasoning, as in fact are the many other examples of this style throughout the book.

*Therefore* is a favorite word with Mr. Monteith. Like a schoolboy in his first essays at writing, he lugs it in on all possible occasions. Inferences the most far-

fetched and often ridiculous are introduced by *hence* or *therefore*.

Are children so stupid that they must be reasoned (!) with in this wise?—"A bird was not formed to live in the water like a fish, hence it is not covered with scales: a fish cannot live in the air and find its food among the trees; therefore, it is not provided with feathers." (Par. 35, p. 44.)

The inflated style is more entertaining. It is characterized by "words of learned length and thundering sound," and is used chiefly in stating facts or theories that would be too commonplace if briefly expressed. For instance the simple statement, *water runs down hill*, would hardly be worthy of a place in "Geography Taught as a Science;" but when properly inflated it is worthy even of bold-face type; thus, (par. 13, p. 23): "The **Sources of Rivers always occupy Higher Ground** than do their mouths." This appears to be our author's natural style. It is very impressive at times. Thus: "The approach of an earthquake like the eruption of a volcano, is often heralded by symptoms of unusual agitation beneath the surface." (Par. 15, p. 19.) Again:

"The Esquimaux derives his support from the seal, and exerts his greatest energies in the capture of this aquatic mammal!" (Par. 29, p. 44.) Such indifference to good grammar is positively sublime. Mr. Monteith appears not to know that *Esquimaux* is *plural*. In still another place (par. 18, p. 45) he uses the word incorrectly: "The *Esquimaux* and the Laplander cling with strong attachment to their boundless fields of snow," etc. In this connection we would suggest to Mr. Monteith that "the Caucasians" do not "comprise the most powerful and enlightened nations of the world" (par. 34, p. 46), though the *Caucasian race* does.

Several examples of the figurative style have already been given. Many more might be quoted, did our space permit. The following (par. 5, p. 10) is instructive; it is *Geography taught as a science*: "A continent with its peninsulas, highlands, lowlands, lakes, and rivers, is like a great tree that has grown from a small shrub." Very like, indeed! but who besides Mr. Monteith would have suspected it?

The following (par. 34, p. 29) is sentimental, and recalls tender recollections of bygone years: "In many instances, springs,

but a few rods distant from each other, and fed from snows resting on the same peak, supply rivers which terminate at different sides of a continent; just as schoolmates become separated from each other, and are led by inclination or circumstances to spheres of usefulness in different parts of the world."

Such affecting allusions naturally lead to the *pious style*. The characteristic of this style is the frequent employment of the words *Creator*, *Providence*, and other appellations of the Deity. It presumes on the part of the writer, an intimate acquaintance with God's thoughts, motives, and intentions—past, present, and to come. Par. 28, p. 18, is a good example of this style: "For the same reason that you put a piece of ice into a pitcher of water in summer rather than in winter, Providence has lifted the highest mountains in the tropical, and not in the polar regions of the earth."

We put ice into our water in summer-time because we desire cold water to drink; ergo—but we forbear.

Again (par. 57, p. 42): "The distribution of coal in various parts of the earth plainly indicates that its importance to man was anticipated by the Creator! [The interrogation point is not ours.] Even the necessity of coal in the working of iron was provided for by Him; this is observed in the remarkable association of the two!" For every iron mine in the neighborhood of coal, there are scores where there is no coal; besides, even when the two are together, it rarely occurs that the coal is of such a nature that it may be used in the smelting of the ore. A "remarkable association" truly!

One more example of this style must suffice, though there are many that are worthy of notice. Par. 76, p. 18, says: "The advantages of national communication are now seen by man, but they were recognized by the Creator when he formed the mountains with their intervening passes." This fairly rivals the discovery of the worthy parson who first remarked the marvellous kindness of Providence in always causing rivers to flow by large towns.

But we have neglected to mention the application of the "Object System," which, we are told, constitutes a special excellence in "Geography taught as a Science." To the uninitiated it might seem that in teaching

geography the Object Method could be employed only by taking the pupils out into the open air and pointing out to them such representatives of natural divisions as might be found in their immediate neighborhood; or by excursions to adjacent horse-ponds, where might be reproduced on a small scale, seas, gulfs, bays, islands, peninsulas, and the like. But not so. The Object Method in Geography does not presuppose or require the presence of visible objects. It consists simply in the use of the word *observe* and its derivatives; and the more distant and inaccessible the objects to be observed, the better. Thus: "When considering the position and height of a chain of mountains, the course of the winds, or of an ocean current, he (the pupil) *should observe* the influence exerted by each upon the climate, vegetation, and the pursuits of man in the different regions." (Par. 28, p. 7.) Again (par. 25, p. 7): "He *should observe* that the highest mountains are in the hot regions of the earth, where their lofty peaks, continually wrapped in snow, are faithful refrigerators, reducing the temperature of the air on the heated plains below." How easy!

Though loth to leave so entertaining a subject, we will close with a citation which ought to be written in letters of gold, and suspended in every school-room as a perpetual warning to lazy boys and girls.

"Imagine the Tropical and Frigid Regions to be in a State of Rest, refusing to exchange their waters; one would be intolerable from excessive heat, the other from excessive cold; the result would be ruin to both. *So also would it be with man in the state of idleness!*" (Par. 44, p. 26.)

Surely, if the fear of such disastrous climatic changes will not make them industrious, nothing else will. So much good, at least, may be derived from *Geography taught as a science*.

In 1857, Miss Della Bacon disputed the title of Shakespeare to the works which bear his name, and claimed that several of them were written by Francis Bacon. After the publication of her work a society was formed in England for the purpose of investigating the matter; but, finding the difficulty of solving the problem greater than had been supposed, it fell in pieces,

and the question was forgotten. Judge Holmes,<sup>5</sup> of Missouri, has reopened the discussion with great force and precision. He goes further than Miss Bacon, and asserts that Lord Verulam wrote all the works attributed to Shakespeare, and his treatment of the subject evinces remarkable familiarity with the writings of both Bacon and Shakespeare. He briefly recounts the principal incidents in the life of the latter, and fully discusses his lack of education, his distaste for literature, his indifference concerning his reputed works, and the strange circumstance that no original manuscripts of the dramas have ever been seen. He shows that Bacon was a poet, and that, even in his own time, he was suspected of writing plays, but that he never confessed his authorship, as dramatic writing was at that time discreditable among the higher classes. The plays certainly prove their author to have been a scholar such as Shakespeare could hardly have been, and Judge Holmes' comparison of them with Bacon's works discloses a striking similarity, we had almost said identity, of style and expression. In many cases whole paragraphs are the same. The volume concludes with an analysis of Bacon's philosophy, which, as the author shows, thoroughly coincides with that advanced in the dramas. The arguments of Judge Holmes are plausible and ingenious. They lead us to doubt Shakespeare's title; but we cannot admit that Bacon's claim is clearly established, nor do we think it can be, at this late day.

The contributions of Sir John Herschell to "Good Words" and other magazines, together with several of his lectures, have been reprinted under the title of "Familiar Lectures."<sup>6</sup> Some of the papers are popular, and rival Tyndall's lectures in clearness and attractiveness. The topics are earthquakes, the sun, comets, the weather, celestial weighing and measuring, light, sensorial vision, systems of measurement, atoms, origin of force, absorption of light, and target-shooting. The lectures on light form a popular treatise, as an exhaustive as is consistent, and occupy nearly two hundred pages. In the tenth lecture, the

author gives an entertaining history of weights and measures. He deprecates a national adoption of the metrical system. He prefers the British system, which he maintains is more accurate and convenient. He earnestly opposes any change of English nomenclature in case the French standard be adopted. The lecture upon Sensorial Vision is interesting, but does little toward clearing up this perplexing subject. This collection is the most important of its class published during the year.

Mr. Magill's "French Grammar"<sup>7</sup> differs but little from its predecessors. It omits exercises in translation from French into English, and contains a French, English, and Latin vocabulary which is fully worth the price of the book. The language is concise almost to harshness. This grammar is fitted for the use of maturer students only. Its compactness will prove to be a serious obstacle to its introduction.

A new edition of Prof. Elderhorst's "Manual"<sup>8</sup> has just been published. Besides the matter of previous editions, the book contains a new chapter from Von Kobell, on determinative mineralogy, and a chapter, from Laurent, on the discrimination of inorganic compounds. The fourth chapter has received some important additions, and several new tables have been appended. This work has long been a favorite manual, and, as thus enlarged, is certainly without an equal.

Messrs. Lippincott & Co. have published a convenient manual upon the Metric System.<sup>9</sup> It contains an explanation of the system translated from the authorized French text-book, together with the recent acts of our Congress concerning the matter. As the metric system will soon become the legal standard of weights and measures in this country, this compilation might be advantageously introduced into our schools.

<sup>(5)</sup> FAMILIAR LECTURES ON SCIENTIFIC SUBJECTS. By Sir JOHN HERSCHELL, Bart. K.H., etc. London and New York: Alex. Strahan. 12mo, pp. 507. \$3 50.

<sup>(6)</sup> A FRENCH GRAMMAR, ETC. To which is Added a French, English, and Latin Vocabulary. By EDWARD H. MAGILL, A.M. Boston: Crosby & Ainsworth. 12mo, pp. 257.

<sup>(7)</sup> A MANUAL OF BLOWPIPE ANALYSIS AND DETERMINATIVE MINERALOGY. By WILLIAM ELDERHORST, M.D. Philadelphia: T. Ellwood Zell. 12mo, pp. 179. \$3 50.

<sup>(8)</sup> THE METRIC SYSTEM. Philadelphia: J. Lippincott & Co. 16mo, pp. 37.

In his "Christian Ethics" Dr. Alden designed to give a directory of duty. He has succeeded. The work is eminently practical. The Bible is his supreme authority: "To the law and to the testimony" he fearlessly appeals. His definitions are clear, and his statements of duty pointed. On the duties of the family circle he is too brief; these, especially in this generation, should occupy a prominent place in every treatise on morals. On civil government he is in advance of his contemporaries. "It is the duty of all citizens to render prompt and willing obedience to the laws of the land." "There are limitations to our obedience." "When the law is in conflict with the law of God, it is not our duty to obey. 'We ought to obey God rather than men.' God's law is always right. It is our duty always to do right. Hence we are not to do what is contrary to the will of God." Concerning the duties of legislators he shows more common sense than most writers. "He that ruleth over men must be just, fearing the Lord." Throughout the whole treatise sound judgment and a thorough knowledge of the subjects are manifest. The style is vigorous and exact.

The Christian theory of education regards both sexes as equal, made alike to the image of God, and requiring the same kind of instruction. The practical belief of men is that a radical difference exists between the sexes, and that each has its peculiar station in life. The ordinary theory of education asserts the existence of a double moral code, with masculine and feminine virtues, and a separate law of duty and honor for either sex. It fits the man for the world, the woman for the house. From early youth boys are trained to proficiency in some special calling, but the education of girls is general and without object. After spending their younger years in a hap-hazard manner at home, or at an inferior school, they are sent to a high-school or college, for a year or two, to finish their education—to finish what has never been begun—and when at an age when boys have only begun their course of study,

they are withdrawn from school: their education is complete. No training for life has been given, no knowledge of future responsibility imparted, and, when "finished," they are almost as ignorant as at first. From this time until marriage, they are without employment, and fritter away their time in amusements, or in fruitless, because desultory, reading.

Thus among the higher classes the best part of woman's life is wasted. What can be done? To give a practicable answer is the purpose of Mrs. Davies' essay. After discussing "things as they are," she talks of "things as they might be," and demands that training for special callings be substituted for the present profitless process. She pleads for the admission of women to the medical profession, and maintains their fitness to act as chaplains in workhouses, as bookkeepers, as overseers in factories, and even as superintendents of agricultural operations. With great force she supports her demand for educational privileges equal to those of men, and refutes many objections to her propositions. She exposes the contradictory nature of the present method of education, and in her "Specific Suggestions" proves herself practically conversant with her subject.

In many respects this essay resembles Miss Sewell's "Principles of Education." It takes much the same ground, and adopts a similar method of argument. Some sections refer exclusively to British society, but the greater part is of general application. It is unmarked by brilliance of thought or expression, but is full of good sense.

As a mere narration, "Dr. Johns" is readable, for it is well told; but as a novel, it is poor. The story appears to have been begun and finished without any particular object in view, and the author seems to have changed his mind about the *dénouement* several times. It certainly will not increase its author's reputation.

© THE HIGHER EDUCATION OF WOMEN. By EMILIE DAVIES. London and New York: Alex. Strahan, 16mo, pp. 121.

© CHRISTIAN ETHICS, OR THE SCIENCE OF DUTY. By JOSEPH ALDEN, D.D., LL.D. New York: Iverson, Plimney, Blakeman & Co. 12mo, pp. 170.

© DR. JOHNS. A Narrative of Certain Events in the Life of an Orthodox Clergyman in Connecticut. By the Author of "My Farm of Kidgewood." New York: Scribner & Co. 12mo, two vols., pp. 200-220.



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*(See other side.)*

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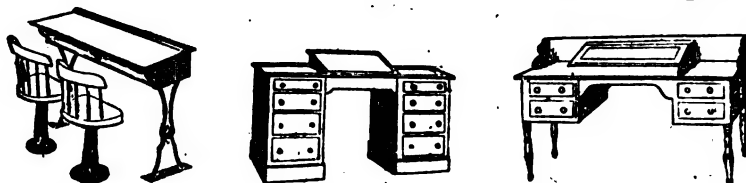
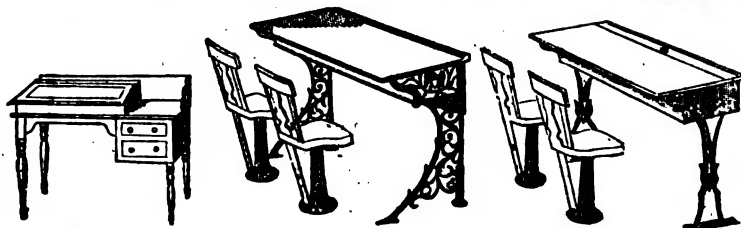
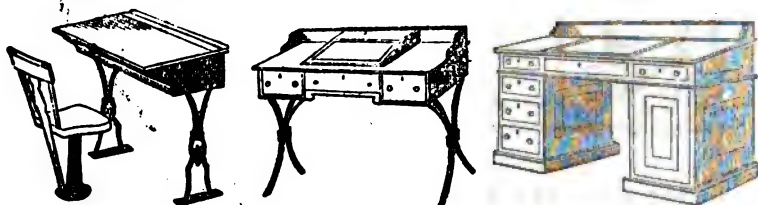
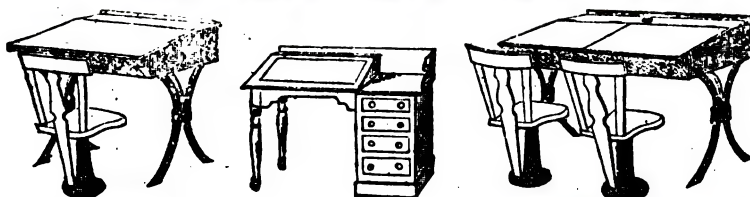
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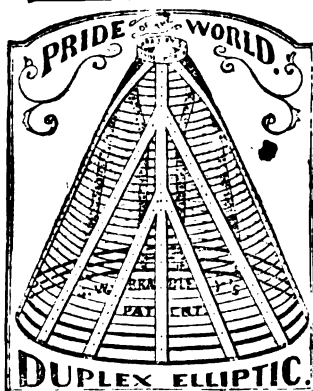
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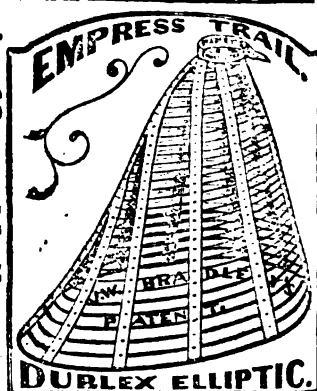
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